Which of the following is the pressure correction factor formula?

Select one:

a.

PCF=MeterPressure+LocalAtmosphericPressureStandardPressurePCF=MeterPressure+LocalAtmosphericPressureStandardPressure

b.

PCF=MeterPressure×AbsolutePressureSeaLevelPressurePCF=MeterPressure×AbsolutePressureSeaLevelPressure

c.

PCF=MeterPressure×StandardPressureLocalAtmosphericPressurePCF=MeterPressure×StandardPressureLocalAtmosphericPressure

d.

PCF=MeterPressure+StandardPressureLocalAtmosphericPressurePCF=MeterPressure+StandardPressureLocalAtmosphericPressure

Feedback

Your answer is correct.

The correct answer is: PCF=MeterPressure+LocalAtmosphericPressureStandardPressurePCF=MeterPressure+LocalAtmosphericPressureStandardPressure

Question text

Which of the following is the temperature correction factor formula?

Select one:

a.

TCF=GasTemp+460(273)StandardTemp+460(273)TCF=GasTemp+460(273)StandardTemp+460(273)

b.

TCF=StandardTemp+460(273)StandardPressure+14.73TCF=StandardTemp+460(273)StandardPressure+14.73

c.

TCF=StandardPressure+14.73StandardTemp+460(273)TCF=StandardPressure+14.73StandardTemp+460(273)

d.

TCF=StandardTemp+460(273)GasTemp+460(273)TCF=StandardTemp+460(273)GasTemp+460(273)

Feedback

Your answer is correct.

The correct answer is: TCF=StandardTemp+460(273)GasTemp+460(273)TCF=StandardTemp+460(273)GasTemp+460(273)

Question text

Simply stated, Boyle's Law says that if the pressure exerted upon a gas increases, its volume will Answer decrease **.**

Feedback

The correct answer is: decrease

Question text

Simply stated, Charles' Law says that if the temperature exerted upon a gas increases, its volume will Answer increase **.**

Feedback

The correct answer is: increase

Question text

Which type of meter has the correction factor stamped on a brass tag attached to the meter? Answer compensa

Feedback

The correct answer is: Pressure Factor Measurement

Question text

Clock the input using the following information:

- **Test Dial = 5 Ft.3Ft.3**
- **Time for One Revolution = 15 seconds**
- **Gas = Natural**
- **Local Atmospheric Pressure = 14.28 Psi**
- **Meter Pressure = 10 Psi**

Input = Answer 1597200 **Btuh**

Feedback

input

= 3,600sec.hr.15sec.rev.×5ft.3rev.×(10Psig+14.28Psi14.73Psia)×1,000Btuft.33,600sec.hr.15sec.rev.×5ft.3rev.×(10Psig+14.28Psi14.73Psia)×1,000Btuft.3

The correct answer is: 1977600

Question 7

Question text

Determine the input to the appliance if:

- Seconds per revolution = 17
- Gas temperature = 22ºF
- Test dial = 5 Ft.3Ft.3
- Gas = Natural
- Local Atmospheric Pressure = 14.56 Psi
- Meter Pressure = 20 Psi
- Meter not temperature compensated

Input = Answer 2475720 Btuh

Feedback

Input

= 3,600sec.hr.17sec.rev.×5ft.3hr.×(20Psig+14.56Psi14.73Psia)×(60F+46022F+460)×1,000Btuft.33,600sec.hr.17sec.rev.×5ft.3hr.×(20Psig+14.56Psi14.73Psia)×(60F+46022F+460)×1,000Btuft.3

The correct answer is: 2680236

Question text

Given a closed container in which there is 16 cubic feet of air at 35 Psig, what will the volume of air be if water is forced into the container until the pressure becomes 105 Psig?

V2V2 = Answer ft.3ft.3

Feedback

V2=V1P1P2V2=V1P1P2

V2=16ft.3×(35Psig+14.73psi)(105psig+14.73psi)V2=16ft.3×(35Psig+14.73psi)(105psig+14.73psi)

The correct answer is: 6.65

Question text

What will the volume be if the 920 cubic inches of gas is cooled from 16ºC to -7ºC ? (to 2 decimals)

V2V2 = Answer 848.49 in.3in.3

Feedback

V2=V1T2T1V2=V1T2T1

V2=920in.3×(−7ºC+273)(16ºC+273)V2=920in.3×(−7ºC+273)(16ºC+273)

The correct answer is: 846.78

Question text

If 310 cubic feet of oxygen is under a pressure of 50 Psig, to what gauge pressure must the gas be compressed so that it fits into a 15 cubic foot cylinder? (to 2 decimals)

P2P2 = Answer 4 psigpsig

Feedback

P2=V1P1V2P2=V1P1V2

P2=310ft.3×(50psig+14.73psi)15ft.3P2=310ft.3×(50psig+14.73psi)15ft.3

P2=1,337.75psia−14.73psiP2=1,337.75psia−14.73psi

The correct answer is: 1323.02

Question text

An 8 cubic foot air chamber at 40 Psig is released into the atmosphere. What volume will the released air have? (to 2 decimals)

V2V2 Answer 29.77 ft.3ft.3

Feedback

V2=V1P1P2V2=V1P1P2

V2=8ft.3×(40psig+14.73psi)14.73PsiaV2=8ft.3×(40psig+14.73psi)14.73Psia

The correct answer is: 29.72

Question text

A gas measures 920 cubic inches at 60°F. What is its volume at 93°F?

V2V2 = Answer 865.09 in.3in.3

Feedback

V2=V1T2T1V2=V1T2T1

V2=920in.3×(93F+460)(60F+460)V2=920in.3×(93F+460)(60F+460)

The correct answer is: 978.38

Question text

Which of the following is the combined gas law formula?

Select one:

a.

V1T1P1=V2T2P2V1T1P1=V2T2P2

b.

V1P1T1=V2P2T2V1P1T1=V2P2T2

c.

V1P1T1=V2P2T2V1P1T1=V2P2T2

d.

T1P1V1=T2P2V2T1P1V1=T2P2V2

Feedback

Your answer is incorrect.

The correct answer is: V1P1T1=V2P2T2V1P1T1=V2P2T2

Question text

All gases expand the same amount when heated one degree.

Select one:

True

False

Feedback

The correct answer is 'True'.

Question text

The test dials are timed on a gas meter that is recording a flow rate of gas at pressures more than 1/2 Psi (3.45 kPa). If no allowance is made for the compression of the gas because of the pressure, the volume of flow indicated by the test dials will:

Select one:

a.

indicate the exact Btu input to the combustion chamber

b.

indicate the unit is overfired

c.

be the volume of fuel gas expressed in SCFH entering the combustion chamber

d.

indicate the unit is underfired

Feedback

Your answer is incorrect.

The correct answer is: indicate the unit is underfired

Question text

The correction factor of 1.679 would be used for a system operating at:

Select one:

a.

5 psig (34 kPa)

b.

10 psig (70 kPa)

c.

20 psig (140 kPa)

d.

2 psig (14 kPa)

Feedback

Your answer is incorrect.

PCF=MeterPressure+LocalAtmosphericPressureStandardPressurePCF=MeterPressure+LocalAtmosphericPressureStandardPressure

MeterPressure=PCF×StandardPressure−LocalAtmosphericPressureMeterPressure=PCF×StandardPressure−LocalAtmosphericPressure

MeterPressure=1.679×14.73psia−14.73psiaMeterPressure=1.679×14.73psia−14.73psia

MeterPressure=10psigMeterPressure=10psig

The correct answer is: 10 psig (70 kPa)

Question 17

Question text

calculate the input to an appliance by using the following information:

- **Local atmospheric pressure = 14.60 Psi**
- **Gas service line pressure = 60 Psig**
- **Gas pressure through the meter = 10 Psig**
- **House line pressure = 2 Psig**
- **Appliance manifold pressure = 5 inches water column**
- **Test dial = 0.05 m3m3**

Test dial completes one revolution in 1 minute. Calorific value of gas =

1,000 Btu/Ft.3)(10.35\(kW/m3Btu/Ft.3)(10.35\(kW/m3). The correct input is closest to which one of the following?

Select one:

a.

177,000 Btu/h (51.8 kW)

b.

536,000 Btu/h (156.9 kW)

c.

300,000 Btu/h (87.9 kW)

d.

106,000 Btu/h (31 kW)

Feedback

Your answer is incorrect.

3,600sec.hr.60sec.rev.×0.05m3rev.×(10psig+14.6psi14.73psia)×35,310Btum3=176,903Btuh3,600sec.hr.60sec.rev.×0.05m3rev.×(10psig+14.6psi14.73psia)×35,310Btum3=176,903Btuh

The correct answer is: 177,000 Btu/h (51.8 kW)

Question text

Calculate the clocked input to the following boiler. The boiler has a rated input of 1,000,000 Btu/h (292.2 kW). it has four burners and operates at a manifold pressure of 7 inches water column (1.74 kPa). The fuel is natural gas with a calorific value of 1,050 Btu/Ft.3Btu/Ft.3 (10.84 kW/m3kW/m3). The building is at sea level (14.73 Psi) and is supplied with 5 Psig (34 kPa) at the meter. One revolution of the 0.1 m3m3 test dial takes 26 seconds. The clocked input of the boiler is closest to which one of the following?

Select one:

a.

520,000 Btu/h (152 kW)

b.

688,000 Btu/h (201 kW)

c.

490,000 Btu\h (143 kW)

d.

750,000 Btu/h (220 kW)

Feedback

Your answer is incorrect.

3,600sec.hr.26sec.rev.×0.1m3rev.×35.31ft.3m3×(5psig+14.73psi14.73psia)×1,050Btuft.3=687,380Btuh3,600sec.hr.26sec.rev.×0.1m3rev.×35.31ft.3m3×(5psig+14.73psi14.73psia)×1,050Btuft.3=687,380Btuh

The correct answer is: 688,000 Btu/h (201 kW)

Question text

Calculate the input to a burner that is fired on a 50% butane-air mixture if it takes 48 seconds for the 2 ft.3ft.3 test dial to complete one revolution. The gas meter has an operating pressure of 5 Psig:

Select one:

a.

240,000 Btuh

b.

480,000 Btuh

c.

643,000 Btuh

d.

321,000 Btuh

Feedback

Your answer is incorrect.

3,600sec.hr.48sec.rev.×2ft.3rev.×(5psig+14.73psi14.73psia)×1,600Btuft.3=321,360Btuh3,600sec.hr.48sec.rev.×2ft.3rev.×(5psig+14.73psi14.73psia)×1,600Btuft.3=321,360Btuh

The correct answer is: 321,000 Btuh

Question text

Determine the input to a appliance under the following conditions (choose the closest answer):

- Service pressure = 60 Psig
- Local atmospheric pressure = 13.38 Psi
- Seconds/revolution = 18
- Meter pressure = 5 psig
- manifold pressure =7 inches water column

- Test dial = 0.05 m3/rev.m3/rev.
- Building line pressure = 2 Psig
- Truck in the driveway = Green
- Weather = Partly Cloudy
- Gas = 1,050 Btu/Ft.3Btu/Ft.3

Select one:

a.

496,000 Btuh

b.

463,000 Btuh

c.

420,000 Btuh

d.

131,000 Btuh

Feedback

Your answer is incorrect.

3,600sec.hr.18sec.rev.×0.05m3rev.×(5Psig+13.38Psi14.73Psia)×35.31ft.3m3×1,050Btuft.3=462,702Btuh3,600sec.hr.18sec.rev.×0.05m3rev.×(5Psig+13.38Psi14.73Psia)×35.31ft.3m3×1,050Btuft.3=462,702Btuh

The correct answer is: 463,000 Btuh

Question text

Calculate the input (to the closest answer) using the following information:

- Service Pressure = 60 Psig
- Meter pressure = 5 Psig
- Manifold pressure = 3.5 inches water column
- Test dial size = (5 cubic ft)
- Seconds/revolution = 20
- Calorific value = 1,000 Btu/Ft.3Btu/Ft.3

Select one:

a.

1,205,000 Btuh

b.

4,566,000 Btuh

c.

6,300,000 Btuh

d.

900,000 Btuh

Feedback

Your answer is incorrect.

3,600sec.hr.20sec.rev.×5ft.3rev.×(5Psig+14.73Psi14.73Psia)×1,000Btuft.3=1,205,100Btuh3,600sec.hr.20sec.rev.×5ft.3rev.×(5Psig+14.73Psi14.73Psia)×1,000Btuft.3=1,205,100Btuh

The correct answer is: 1,205,000 Btuh

Question text

An appliance is clocked on a 2 Psi meter set without correcting for the pressure. The result will be:

Select one:

a.

the appliance clocked input will be correct

b.

there is no need to clock any appliance if 2 Psi gas is used

c.

the appliance will appear to be overfired

d.

the appliance will appear to be underfired

Feedback

Your answer is incorrect.

The correct answer is: the appliance will appear to be underfired

How much Methane does Natural gas contain as a percentage (%) ?

Select one:

a.

80 to 95 %

b.

50 to 60%

c.

60 to 70 %

d.

100%

Feedback

Your answer is correct.

The correct answer is: 80 to 95 %

Question text

Is natural gas in its pure state a toxic gas? (type yes or no) Answer no

Feedback

The correct answer is: No

Question text

For the following questions you can type in the chemical formulas as follows (eg water = H2o) do not include spaces in your answers.

List the chemical formula for Natural Gas. Answer ch4

Feedback

The correct answer is: CH4

Question text

List the chemical formula for Propane. Answer c3h8

Feedback

The correct answer is: C3H8

Question text

List the chemical formula for Butane. Answer c4h10

Feedback

The correct answer is: C4H10

Question text

List the chemical formula for Carbon monoxide. Answer co2

Feedback

The correct answer is: CO

Question text

List the chemical formula for Carbon dioxide. Answer co2

Feedback

The correct answer is: CO2

Question text

List the chemical formula for Methane. Answer mo

Feedback

The correct answer is: CH4

Question text

List the chemical formula for Oxygen. Answer o2

Feedback

The correct answer is: O2

Question text

The ratio of the weight of a given volume of gas to the weight of an equal volume of air measured at standard temperature and pressure (60°F @ 14.73 Psi or 15°C @ 101.325 kPa). This is a description of...

Select one:

a.

Relative Heat

b.

Weight of a substance compared to the density of Hg

c.

Relative Volume

d.

Relative Density

Feedback

Your answer is incorrect.

The correct answer is: Relative Density

Question text

The total heat energy produced when a given volume of fuel is subjected to combustion.

Select one:

a.

Specific Heat

b.

Calorific Capacity

c.

Heating Value

d.

Combustion Capacity

Feedback

Your answer is incorrect.

The correct answer is: Heating Value

Question text

When one cubic foot of natural gas is burned it will produce Answer 1000 **British Thermal Units.**

Feedback

The correct answer is: 1000

Question text

Having any lesser amount of fuel than the lower flammable limit, a mixture would be Answer less **and would not burn.**

Feedback

The correct answer is: lean

Question text

Which of the following is used to odourize natural gas?

Select one:

a.

Sulphur

b.

Citric Acid

c.

Onion Oil

d.

Mercaptan

Feedback

Your answer is incorrect.

The correct answer is: Mercaptan

Question text

Natural gas must be readily detectable when _____ of the fuel gas per volume is present.

Select one:

a.

less than 10%

b.

more than 10%

c.

less than 1%

d.

any amount

Feedback

Your answer is incorrect.

The correct answer is: less than 1%

Question text

At standard atmospheric pressure, 14.73 Psi (101.325 kPa), the boiling point of propane is Answer 2500 **. Answer in Fahrenheit as ###F (including the letter "F") .**

Feedback

-44 F

or

-42 C

The correct answer is: -44F

Question text

Fuel gases are usually transported and stored in liquid state rather than as a gas due to the following:

(C3H8) 270 times more fuel can be stored in the same space.

(C4H10) 235 times more fuel can be stored in the same space.

Select one:

True

False

Feedback

The correct answer is 'True'.

Question text

The limits of flammability of propane gas in air are approximately:

Select one:

a.

2.5% to 9.5%

b.

4.6% to 14%

c.

5% to 15.3%

d.

10% to 45%

Feedback

Your answer is correct.

The correct answer is: 2.5% to 9.5%

Question text

Identify the limits of flammability for natural gas in air:

Select one:

a.

6% to 12%

b.

14% to 24%

c.

4% to 10%

d.

4% to 14%

Feedback

Your answer is correct.

The correct answer is: 4% to 14%

Question text

Natural gas is composed mainly of:

Select one:

a.

propane

b.

butane

c.

methane

d.

carbon dioxide

Feedback

Your answer is correct.

The correct answer is: methane

Question text

The relative density of propane vapour is approximately:

Select one:

a.

1.5

b.

0.8

c.

0.6

d.

2.0

Feedback

Your answer is correct.

The correct answer is: 1.5

Question text

What is the calorific value of Butane gas?

Select one:

a.

1,200Btu/Ft.3(.352kW/Ft.3)1,200Btu/Ft.3(.352kW/Ft.3)

b.

1,050Btu/Ft.3(.308kW/Ft.3)1,050Btu/Ft.3(.308kW/Ft.3)

c.

3,200Btu/Ft.3(.938kW/Ft.3)3,200Btu/Ft.3(.938kW/Ft.3)

d.

2,500Btu/Ft.3(.733kW/Ft.3)2,500Btu/Ft.3(.733kW/Ft.3)

Feedback

Your answer is correct.

The correct answer is: 3,200Btu/Ft.3(.938kW/Ft.3)3,200Btu/Ft.3(.938kW/Ft.3)

Question text

The heat generated by the complete combustion of a unit of fuel is commonly referred to as its:

Select one:

a.

distillation value

b.

combustion value

c.

flash value

d.

calorific value

Feedback

Your answer is correct.

The correct answer is: calorific value

Question text

Which of the following gases has the highest calorific value?

Select one:

a.

Natural Gas

b.

Carbon monoxide

c.

Butane

d.

Propane

Feedback

Your answer is correct.

The correct answer is: Butane

Question text

Natural gas must be preheated to approximately _____ °F before it will ignite.

Select one:

a.

3,500

b.

212

c.

1,200

d.

1,000

Feedback

Your answer is correct.

The correct answer is: 1,200

Question text

The flame temperature of natural gas is approximately _____ ºF.

Select one:

a.

212

b.

1,000

c.

3,500

d.

1,200

Feedback

Your answer is incorrect.

The correct answer is: 3,500

Question text

The calorific value (heat value) of natural gas is approximately:

Select one:

a.

1,000Btu/Ft.3(10.35kW/m3)1,000Btu/Ft.3(10.35kW/m3)

b.

2,500Btu/Ft.3(26kW/m3)2,500Btu/Ft.3(26kW/m3)

c.

3,200Btu/Ft.3(33kW/m3)3,200Btu/Ft.3(33kW/m3)

d.

500Btu/Ft.3(5.17kW/m3)500Btu/Ft.3(5.17kW/m3)

Feedback

Your answer is correct.

The correct answer is: 1,000Btu/Ft.3(10.35kW/m3)1,000Btu/Ft.3(10.35kW/m3)

Question 28

Question text

The specific gravity of a gas is the:

Select one:

a.

weight of a gas as compared to an equal volume of air

b.

heat in the gas

c.

weight of a gas as compared to an equal volume of water

d.

volume of the gas

Feedback

Your answer is incorrect.

The correct answer is: weight of a gas as compared to an equal volume of air

Skip to main content

Side panel

vocational

Question text

How much Methane does Natural gas contain as a percentage (%) ?

Select one:

a.

80 to 95 %

b.

50 to 60%

c.

60 to 70 %

d.

100%

Feedback
Your answer is correct.

The correct answer is: 80 to 95 %

Question text
Is natural gas in its pure state a toxic gas? (type yes or no) Answer no

Feedback
The correct answer is: No

Question **3**

Question text
For the following questions you can type in the chemical formulas as follows (eg water = H2o) do not include spaces in your answers.

List the chemical formula for Natural Gas. Answer ch4

Feedback
The correct answer is: CH4

Question text
List the chemical formula for Propane. Answer c3h8

Feedback
The correct answer is: C3H8

Question text
List the chemical formula for Butane. Answer c4h10

Feedback
The correct answer is: C4H10

Question text
List the chemical formula for Carbon monoxide. Answer co2

Feedback
The correct answer is: CO

Question text
List the chemical formula for Carbon dioxide. Answer co2

Feedback
The correct answer is: CO2

Question text

List the chemical formula for Methane. Answer mo

Feedback

The correct answer is: CH4

Question text

List the chemical formula for Oxygen. Answer o2

Feedback

The correct answer is: O2

Question text

The ratio of the weight of a given volume of gas to the weight of an equal volume of air measured at standard temperature and pressure (60ºF @ 14.73 Psi or 15ºC @ 101.325 kPa). This is a description of...

Select one:

a.

Relative Heat

b.

Weight of a substance compared to the density of Hg

c.

Relative Volume

d.

Relative Density

Feedback

Your answer is incorrect.

The correct answer is: Relative Density

Question **11**

Question text

The total heat energy produced when a given volume of fuel is subjected to combustion.

Select one:

a.

Specific Heat

b.

Calorific Capacity

c.

Heating Value

d.

Combustion Capacity

Feedback

Your answer is incorrect.

The correct answer is: Heating Value

Question text

When one cubic foot of natural gas is burned it will produce Answer 1000 British Thermal Units.

Feedback

The correct answer is: 1000

Question **13**

Question text

Having any lesser amount of fuel than the lower flammable limit, a mixture would be Answer less and would not burn.

Feedback

The correct answer is: lean

Question text

Which of the following is used to odourize natural gas?

Select one:

a.

Sulphur

b.

Citric Acid

c.

Onion Oil

d.

Mercaptan

Feedback

Your answer is incorrect.

The correct answer is: Mercaptan

Question text

Natural gas must be readily detectable when _____ of the fuel gas per volume is present.

Select one:

a.

less than 10%

b.

more than 10%

c.

less than 1%

d.

any amount

Feedback

Your answer is incorrect.

The correct answer is: less than 1%

Question text

At standard atmospheric pressure, 14.73 Psi (101.325 kPa), the boiling point of propane is Answer 2500 . Answer in Fahrenheit as ###F (including the letter "F") .

Feedback

-44 F

or

-42 C

The correct answer is: -44F

Question text

Fuel gases are usually transported and stored in liquid state rather than as a gas due to the following:

(C3H8) 270 times more fuel can be stored in the same space.

(C4H10) 235 times more fuel can be stored in the same space.

Select one:

True

False

Feedback

The correct answer is 'True'.

Question text

The limits of flammability of propane gas in air are approximately:

Select one:

a.

2.5% to 9.5%

b.

4.6% to 14%

c.

5% to 15.3%

d.

10% to 45%

Feedback

Your answer is correct.

The correct answer is: 2.5% to 9.5%

Question text

Identify the limits of flammability for natural gas in air:

Select one:

a.

6% to 12%

b.

14% to 24%

c.

4% to 10%

d.

4% to 14%

Feedback

Your answer is correct.

The correct answer is: 4% to 14%

Question text

Natural gas is composed mainly of:

Select one:

a.

propane

b.

butane

c.

methane

d.

carbon dioxide

Feedback

Your answer is correct.

The correct answer is: methane

Question text

The relative density of propane vapour is approximately:

Select one:

a.

1.5

b.

0.8

c.

0.6

d.

2.0

Feedback

Your answer is correct.

The correct answer is: 1.5

Question text

What is the calorific value of Butane gas?

Select one:

a.

1,200Btu/Ft.3(.352kW/Ft.3)1,200Btu/Ft.3(.352kW/Ft.3)

b.

1,050Btu/Ft.3(.308kW/Ft.3)1,050Btu/Ft.3(.308kW/Ft.3)

c.

3,200Btu/Ft.3(.938kW/Ft.3)3,200Btu/Ft.3(.938kW/Ft.3)

d.

2,500Btu/Ft.3(.733kW/Ft.3)2,500Btu/Ft.3(.733kW/Ft.3)

Feedback

Your answer is correct.

The correct answer is: 3,200Btu/Ft.3(.938kW/Ft.3)3,200Btu/Ft.3(.938kW/Ft.3)

Question text

The heat generated by the complete combustion of a unit of fuel is commonly referred to as its:

Select one:

a.

distillation value

b.

combustion value

c.

flash value

d.

calorific value

Feedback

Your answer is correct.

The correct answer is: calorific value

Question text

Which of the following gases has the highest calorific value?

Select one:

a.

Natural Gas

b.

Carbon monoxide

c.

Butane

d.

Propane

Feedback

Your answer is correct.

The correct answer is: Butane

Question text

Natural gas must be preheated to approximately _____ ºF before it will ignite.

Select one:

a.

3,500

b.

212

c.

1,200

d.

1,000

Feedback

Your answer is correct.

The correct answer is: 1,200

Question text

The flame temperature of natural gas is approximately _____ ºF.

Select one:

a.

212

b.

1,000

c.

3,500

d.

1,200

Feedback

Your answer is incorrect.

The correct answer is: 3,500

Question text

The calorific value (heat value) of natural gas is approximately:

Select one:

a.

1,000Btu/Ft.3(10.35kW/m3)1,000Btu/Ft.3(10.35kW/m3)

b.

2,500Btu/Ft.3(26kW/m3)2,500Btu/Ft.3(26kW/m3)

c.

3,200Btu/Ft.3(33kW/m3)3,200Btu/Ft.3(33kW/m3)

d.

500Btu/Ft.3(5.17kW/m3)500Btu/Ft.3(5.17kW/m3)

Feedback

Your answer is correct.

The correct answer is: 1,000Btu/Ft.3(10.35kW/m3)1,000Btu/Ft.3(10.35kW/m3)

Question text

The specific gravity of a gas is the:

Select one:

a.

weight of a gas as compared to an equal volume of air

b.

heat in the gas

c.

weight of a gas as compared to an equal volume of water

d.

volume of the gas

Feedback

Your answer is incorrect.

The correct answer is: weight of a gas as compared to an equal volume of air

The major interruption in fuel supply could stop production and result in what?

Select one:

a.

Minor economic losses

b.

Major economic losses

c.

Not a big deal

d.

Inconvenience

Feedback

Your answer is incorrect.

The correct answer is: Major economic losses

Question text

When is it practical to consider Bio-gas as a supplemental fuel source?

Select one:

a.

When supply exceeds demand

b.

When demand exceeds supply

c.

Bio-gas is hazardous and should never be used

d.

It is never practical

Feedback

Your answer is incorrect.

The correct answer is: When demand exceeds supply

Question text

When organic waste degrades what does it produce?

Select one:

a.

Water

b.

Energy

c.

Methane

d.

Carbon Dioxide

Feedback

Your answer is incorrect.

The correct answer is: Methane

Question text

What is the process of bacteria digesting organic material referred to as?

Select one:

a.

Energetic activity

b.

Aerobic activity

c.

Anaerobic digestion

d.

Process Digestion

Feedback

Your answer is incorrect.

The correct answer is: Anaerobic digestion

Question text

What is term used to describe separating methane from the bio-gas?

Select one:

a.

Scrubbing

b.

Manufacturing

c.

Sweeping

d.

Bleaching

Feedback

Your answer is incorrect.

The correct answer is: Scrubbing

Question text

Calculate the calorific value of a propane/air mixture with 65% propane.

Select one:

a.

1 500 Btu/cubic foot

b.

1 235 Btu/cubic foot

c.

1 750 Btu/cubic foot

d.

1 625 Btu/cubic foot

Feedback

Your answer is incorrect.

The correct answer is: 1 625 Btu/cubic foot

Question **7**

Question text

Calculate the specific gravity of a propane/air mixture with 65% propane.

Select one:

a.

1.342

b.

1.182

c.

1.338

d.

1.765

Feedback

Your answer is incorrect.

(65/100 x 1.52) + (35/100 x 1) = 1.338

The correct answer is: 1.338

Which type of gas meter would be suited for applications requiring a gas pressure rating of 300 or more PSIG?

Select one:

a.

Rotary meter

b.

Diaphragm meter

c.

Turbine meter

d.

All meters can easily handle 300 PSIG or more

Feedback

Your answer is incorrect.

The correct answer is: Turbine meter

Question text

Which type of gas meter is used mostly in residential markets?

Answer: Diaphragm meter

Feedback

Diaphragm or Bellows

The correct answer is: Diaphragm

Question text

Which of the following is not a function of the gas meter ?

Select one:

a.

Measuring input to appliances within building

b.

Measuring Gas consumption

c.

Identifying leaks

d.

Measuring Gas pressure

Feedback

Your answer is incorrect.

The correct answer is: Measuring Gas pressure

Question text

If no appliances in the building are firing and the gas meter is moving what can be assumed ?

Select one:

a.

The line pressure regulator has been left on

b.

The gas meter is faulty

c.

The service regulator has failed

d.

There is a leak somewhere in the system

Feedback

Your answer is incorrect.

The correct answer is: There is a leak somewhere in the system

Question text

The main purpose of a gas meter is to:

Select one:

a.

measure and record the gas flow

b.

restrict the flow of gas to the system

c.

prevent excessive gas flow to the system

d.

test the system for leaks

Feedback

Your answer is correct.

The correct answer is: measure and record the gas flow

Question text

Bellows-type gas meters are installed on:

Select one:

a.

domestic and commercial systems

b.

domestic system only

c.

industrial and commercial system

d.

industrial systems only

Feedback

Your answer is correct.

The correct answer is: domestic and commercial systems

Question text

Diaphragm meters can typically service systems up to a maximum flow capacity of _____.

Select one:

a.

15 000 CFH

b.

1000 CFH

c.

5000 CFH

d.

1500 CFH

Feedback

Your answer is correct.

The correct answer is: 5000 CFH

Question **8**

Question text

Test dials on meters can be used to do which of the following.

Select one:

a.

To test for leaks in the system.

b.

To test the meter for proper operation.

c.

To monitor and record flow rate.

d.

To determine the amount of gas consumed over a large period of time.

Feedback

Your answer is correct.

The correct answer is: To test for leaks in the system.

What are the acceptable range limits when comparing CLOCKED inputs to the manufacturer's RATED inputs ?

Select one:

a.
+/- 20 %

b.
10 % under-fired / 0 % over-fired

c.
10 % over-fired / 0 % under-fired

d.
0 % over-fired / 0 % over-fired

Feedback

Your answer is correct.

The correct answer is: 10 % under-fired / 0 % over-fired

Question text

Which of the following is the low pressure clocking formula ?

Select one:

a.
3600 secs / hr x test dial volume x calorific value / clocked input

b.
3600 secs / hr x test dial volume x calorific value / rated input

c.
sec / rev. x test dial volume x calorific value / 3600 sec / hr

d.
3600 secs / hr x test dial volume x calorific value / # sec / rev.

Feedback

Your answer is incorrect.

The correct answer is: 3600 secs / hr x test dial volume x calorific value / # sec / rev.

Question text

If a natural gas meter @ 7 inches water column pressure is used to clock an appliance and it takes 23 seconds for the 2 cubic foot test dial to make one revolution. What is the clocked input of this appliance if the calorific value of the gas is 1050 Btu's / feet ^{3} ? (To nearest whole number)

Answer: 328695

Feedback

3600 sec / hour ÷ 23 sec / rev. x 2 feet ^{3} x 1050 Btu's ^{3} / feet ^{3}

The correct answer is: 328696

Question text

The testing pressure and duration of the test for gas piping systems after appliances are connected is:

Select one:

a.
50 psi for 10 minutes

b.
normal working pressure for 24 hours

c.
1/2 Psi for 10 minutes

d.
normal working pressure for 10 minutes

Feedback

Your answer is correct.

B149.1 [6.22.3 (b & d)]

The correct answer is: normal working pressure for 10 minutes

Question text

A furnace fired on natural gas is clocked at 20 seconds for one revolution of a 0.05 cubic meter test dial. The pressure of the gas in the meter is 7 inches water column (1.74 kPa). Calorific value = 1,000 $\mathrm{BtuFt.^3}$BtuFt.3 (10.35 kW/m 3). The correct input is closest to:

Select one:

a.
93.15 Btu/h (0.027 kW)

b.
9,000 Btu/h (2.63 kW)

c.
320,000 Btu/h (93.6 kW)

d.
90,000 Btu/h (26.4 kW)

Feedback

Your answer is incorrect.

$3{,}600_{sec.hr.} 20_{sec.rev.} \times 0.05_{m3rev.} = 9_{m3hr}$3,600sec.hr.20sec.rev.×0.05m3rev.=9m3hr
$9_{m3hr.} \times 35{,}310_{Btum3} = 317{,}790Btuh$9m3hr.×35,310Btum3=317,790Btuh

The correct answer is: 320,000 Btu/h (93.6 kW)

Question text

A 5 cubic foot test dial on a low pressure meter takes 30 seconds to make 1 complete revolution. The correct flow rate is closest to:

Select one:

a.
600 cubic feet/hour (16.80 m_{3}m3)

b.
120 cubic feet/hour (3.36 m_{3}m3)

c.
30 cubic feet/hour (0.85 m_{3}m3)

d.
750 cubic feet/hour (21.24 m_{3}m3)

Feedback

Your answer is correct.

$3{,}600_{sec.hr.} 30_{sec.rev.} \times 5_{ft.3rev.} = 600CFH$3,600sec.hr.30sec.rev.×5ft.3rev.=600CFH

The correct answer is: 600 cubic feet/hour (16.80 m_{3}m3)

Question text

A low pressure meter set requires 32 seconds for a 0.05 m_{3}m3 test dial to make one revolution. The calorific value of the gas is 1,000 $Btu_{Ft.3}$BtuFt.3 . The closest correct input is:

Select one:

a.
582,000 Btu/h

b.
1,986,948 Btu/h

c.
199,000 Btu/h

d.
56,250 Btu/h

Feedback

Your answer is incorrect.

$3{,}600_{\text{sec.hr.}}32_{\text{sec.rev.}}\times 0.05_{\text{m3rev.}}=5.625_{\text{m3hr.}}$3,600sec.hr.32sec.rev.×0.05m3rev.=5.625m3hr.
$5.625_{\text{m3hr.}}\times 35{,}310_{\text{Btum3}}=198{,}619\text{Btuh}$5.625m3hr.×35,310Btum3=198,619Btuh

The correct answer is: 199,000 Btu/h

Question text

A low pressure propane meter with a 1 cubic foot dial takes 25 seconds for a revolution. The correct input is closest to:

Select one:

a.
325,451 Btu/h (95.32 kW)

b.
403,200 Btu/h (118.09 kW)

c.
360,000 Btu/h (105.44 kW)

d.
151,200 btu/h (44.28 kW)

Feedback

Your answer is correct.

$3{,}600_{\text{sec.hr.}}25_{\text{sec.rev.}}\times 1_{\text{ft.3rev.}}=144\text{CFH}$3,600sec.hr.25sec.rev.×1ft.3rev.=144CFH
$144\text{CFH}\times 2{,}500_{\text{Btuft.3}}=360{,}000\text{Btuh}$144CFH×2,500Btuft.3=360,000Btuh

The correct answer is: 360,000 Btu/h (105.44 kW)

Question text

A furnace rated at 250,000 Btu/h (73.23 kW) is fired on natural gas. The calorific value = 1,000 $\frac{Btu}{Ft.^3}$BtuFt.3 (10.35 $\frac{kW}{m^3}$kWm3). How long will it take the 5 cubic foot test dial to make one complete revolution on this low pressure meter?

Select one:

a.
180 seconds

b.
18 seconds

c.
100 seconds

d.
72 seconds

Feedback

Your answer is incorrect.

$input = 3{,}600_{sec.hr.} \times TD \times C.V._{T_{sec.rev.}}$input=3,600sec.hr.×TD×C.V.Tsec.rev.

$T_{sec.rev.} = \frac{3{,}600_{sec.hr.} \times 5_{ft.^3 rev.} \times 1{,}000_{Btu ft.^3}}{250{,}000 Btuh}$Tsec.rev.=3,600sec.hr.×5ft.3rev.×1,000Btuft.3250,000 Btuh

The correct answer is: 72 seconds

Question text

Calculate the input for the following natural gas appliance:

- Calorific value of gas = 1,000 $\frac{Btu}{Ft.^3}$BtuFt.3 (10.35 $\frac{kW}{m^3}$kWm3)
- Meter pressure = 7 inches water column (1.74 kPa)
- Manifold pressure = 5 inches water column (1.24 kPa)
- Local atmospheric pressure = 14.68 Psia
- Test dial = 1 $Ft.^3$
- One revolution of the test dial takes 31.5 seconds

Select one:

a.
115,428 Btu/h (33.81 kW)

b.
114,285 Btu/h (33.47 kW)

c.
119,999 Btu/h (35.15 kW)

d.
116,129 Btu/h (34.01 kW)

Feedback

Your answer is correct.

$3{,}600_{\text{sec.rev.}} 31.5_{\text{sec.rev.}} \times 1_{\text{ft.3rev.}} \times 1{,}000_{\text{Btuft.3}} = 114{,}286\text{Btuh}$3,600sec.rev.31.5sec.rev.×1ft.3rev.×1,000Btuft.3=114,286Btuh

The correct answer is: 114,285 Btu/h (33.47 kW)

Question text

The purpose of clocking a meter by a gas fitter is:

Select one:

a.
solely used as a gas leak check

b.
to check how much gas is consumed in a month for billing purposes

c.
to see how long it takes the test dial to go around

d.
to determine how much gas an appliance consumes per hour

Feedback

Your answer is correct.

The correct answer is: to determine how much gas an appliance consumes per hour

Question text

Determine the number of seconds for one revolution of a 2 cubic foot test dial if the input is 302,400 Btuh, the meter pressure is 7 inches water column and the gas used has a calorific value of 1,050 $\frac{Btu}{Ft.^3}$BtuFt.3.

Select one:

a.
4 seconds

b.
25 seconds

c.
28.5 seconds

d.
23.8 seconds

Feedback

Your answer is correct.

$3{,}600\frac{sec.}{hr.}\times 2\frac{ft.^3}{rev.}\times 1{,}050\frac{Btu}{ft.^3}\frac{302{,}400Btuh}{}=25sec.$3,600sec.hr.×2ft.3rev.×1,050Btuft.3302,400Btuh=25sec.

The correct answer is: 25 seconds

Question text

A furnace fired on propane is clocked at 22 seconds on a 0.5 $Ft.^3$Ft.3 test dial. The meter is low pressure. Its input will be closest to:

Select one:

a.
2,045,000 Btuh

b.
82,000 Btuh

c.
818,000 Btuh

d.
204,545 Btuh

Feedback

Your answer is correct.

$3{,}600_{sec.hr.}22_{sec.rev.}\times 0.5_{ft.3rev.}\times 2{,}500_{Btuft.3}=204{,}545Btuh$3,600sec.hr.22sec.rev.×0.5ft.3rev.×2,500Btuft.3=204,545Btuh

The correct answer is: 204,545 Btuh

Question text

A low pressure meter set measuring natural gas requires 32 seconds for a 1/2 cubic meter test dial to make one revolution. The correct input is closest to:

Select one:

a.
56.25 kW

b.
582 kW

c.
56,250 kW

d.
582 Btuh

Feedback

Your answer is incorrect.

$3{,}600_{sec.hr.}32_{sec.rev.}\times 0.5_{m3rev.}=56.25_{m3hr.}$3,600sec.hr.32sec.rev.×0.5m3rev.=56.25m3hr.
$56.25_{m3hr.}\times 10.35_{kWm3}=582.188_{kWhr.}$56.25m3hr.×10.35kWm3=582.188kWhr.

The correct answer is: 582 kW

Question text

After replacing a hot water tank rated at 36,000 Btuh, the gas fitter must clock it. However, the furnace must stay on throughout the clocking procedure. Clocking only the furnace (rated at 120,000 Btuh), the test dial takes 150 seconds for one revolution (5 $Ft._{3}$Ft.3 test dial). With both units firing, the time per revolution drops to 116 seconds. Using natural gas, if the meter is a low-pressure meter, we can conclude that:

Select one:

a.
the hot water tank is overfired

b.
both units are underfired

c.
the installation is acceptable

d.
the furnace is overfired

Feedback

Your answer is incorrect.

(Both Appliances) $\frac{3{,}600\text{sec.hr.}}{116\text{sec.rev.}} \times 5\text{ft.}^3\text{rev.} \times 1{,}000\frac{\text{Btu}}{\text{ft.}^3} = 155{,}172\text{Btuh}$ 3,600sec.hr.116sec.rev.×5ft.3rev.×1,000Btuft.3=155,172Btuh

(Furnace) $\frac{3{,}600\text{sec.hr.}}{150\text{sec.rev.}} \times 5\text{ft.}^3\text{rev.} \times 1{,}000\frac{\text{Btu}}{\text{ft.}^3} = 120{,}000\text{Btuh}$ 3,600sec.hr.150sec.rev.×5ft.3rev.×1,000Btuft.3=120,000Btuh

(Hot Water Tank) $155{,}172\text{Btuh} - 120{,}000\text{Btuh} = 35{,}172\text{Btuh}$ 155,172Btuh−120,000Btuh=35,172Btuh

The correct answer is: the installation is acceptable

Question text

An appliance fired on low pressure natural gas takes 27 seconds for one revolution of a 0.05 m^3 m3 test dial. Its input will be closest to:

Select one:

a.
6.67 kW

b.
13.24 kW

c.
235,000 Btuh

d.
167,000 Btuh

Feedback

Your answer is incorrect.

$3{,}600_{sec.hr.} 27_{sec.rev.} \times 0.05 m3_{rev.} \times 35{,}310 Btum3_{} = 235{,}400 Btuh$3,600sec.hr.27sec.rev.×0.05m3rev.×35,310Btum3=235,400Btuh

The correct answer is: 235,000 Btuh

Question text

A furnace is certified to operate on propane with an input of 375,000 Btu/h at 10 inches water column. The gas has a calorific value of 2,500 Btu/Ft.3Btu/Ft.3. With the furnace operating, the meter is clocked and it takes 30 seconds for the 1 cubic foot test dial to make one complete revolution. From this, you can conclude that the appliance is:

Select one:

a.
firing at the correct input

b.
overfired by 20%

c.
underfired by 20%

d.
underfired by 80%

Feedback

Your answer is incorrect.

$3{,}600_{sec.hr.} 30_{sec.rev.} \times 1 ft.3_{rev.} \times 2{,}500 Btuft.3_{} 3{,}600 sec.hr.30 sec.rev. \times 1 ft.3 rev. \times 2{,}500 Btuft.3$
$300{,}000 Btuh 375{,}000 Btuh = 80 300{,}000 Btuh 375{,}000 Btuh = 80\ \%$

Which of the following is the pressure correction factor formula?

Select one:

a.

$$PCF=\frac{MeterPressure+LocalAtmosphericPressure}{StandardPressure}$$PCF=StandardPressureMeterPressure+LocalAtmosphericPressure

b. $$PCF=MeterPressure\times\frac{AbsolutePressure}{SeaLevelPressure}$$PCF=MeterPressure×SeaLevelPressureAbsolutePressure

c. $$PCF=MeterPressure\times\frac{StandardPressure}{LocalAtmosphericPressure}$$PCF=MeterPressure×LocalAtmosphericPressureStandardPressure

d. $$PCF=\frac{MeterPressure+StandardPressure}{LocalAtmosphericPressure}$$PCF=LocalAtmosphericPressureMeterPressure+StandardPressure

Feedback

Your answer is correct.

The correct answer is: $$PCF=\frac{MeterPressure+LocalAtmosphericPressure}{StandardPressure}$$PCF=StandardPressureMeterPressure+LocalAtmosphericPressure

Question text

Which of the following is the temperature correction factor formula?

Select one:

a. $$TCF=\frac{GasTemp+460}{(273)StandardTemp+460}$$TCF=(273)StandardTemp+460GasTemp+460

b. $$TCF=\frac{StandardTemp+460}{(273)StandardPressure+14.73}$$TCF=(273)StandardPressure+14.73StandardTemp+460

c. $$TCF=\frac{StandardPressure+14.73}{StandardTemp+460}$$TCF=StandardTemp+460StandardPressure+14.73(273)

d. $$TCF=\frac{StandardTemp+460}{(273)GasTemp+460}$$TCF=(273)GasTemp+460StandardTemp+460

Feedback

Your answer is correct.

The correct answer is: $TCF=\frac{StandardTemp+460}{(273)}\frac{GasTemp+460}{(273)}$TCF=StandardTemp+460(273)GasTemp+460(273)

Question text

Simply stated, Boyle's Law says that if the pressure exerted upon a gas increases, its volume will Answer decrease.

Feedback

The correct answer is: decrease

Flag question

Question text

Simply stated, Charles' Law says that if the temperature exerted upon a gas increases, its volume will Answer increase.

Feedback

The correct answer is: increase

Question text

Which type of meter has the correction factor stamped on a brass tag attached to the meter? Answer compensa

Feedback

The correct answer is: Pressure Factor Measurement

Question text

Clock the input using the following information:

- Test Dial = 5 $Ft.^3$Ft.3
- Time for One Revolution = 15 seconds
- Gas = Natural
- Local Atmospheric Pressure = 14.28 Psi
- Meter Pressure = 10 Psi

Input = Answer 1597200 Btuh

Feedback

input
$= \frac{3{,}600_{sec.hr.}}{15_{sec.rev.}} \times \frac{5_{ft.^3rev.}}{(10Psig+14.28Psi14.73Psia)} \times \frac{1{,}000_{Btu}}{ft.^3}$3,600sec.hr.15sec.rev.×5ft.3rev.×(10Psig+14.28Psi14.73Psia)×1,000Btuft.3

The correct answer is: 1977600

Question text

Determine the input to the appliance if:

- Seconds per revolution = 17
- Gas temperature = 22°F
- Test dial = 5 Ft.3Ft.3
- Gas = Natural
- Local Atmospheric Pressure = 14.56 Psi
- Meter Pressure = 20 Psi
- Meter not temperature compensated

Input = Answer 2475720 Btuh

Feedback

Input
$= \frac{3{,}600_{sec.hr.}}{17_{sec.rev.}} \times \frac{5_{ft.^3hr.}}{(20Psig+14.56Psi14.73Psia)} \times \frac{(60F+460}{22F+460)} \times \frac{1{,}000_{Btu}}{ft.^3}$3,600sec.hr.17sec.rev.×5ft.3hr.×(20Psig+14.56Psi14.73Psia)×(60F+46022F+460)×1,000Btuft.3

The correct answer is: 2680236

Question text

Given a closed container in which there is 16 cubic feet of air at 35 Psig, what will the volume of air be if water is forced into the container until the pressure becomes 105 Psig?

V_2V2 = Answer ft.3ft.3

Feedback

$V_2 = \frac{V_1 P_1}{P_2}$V2=V1P1P2

$V_2 = \frac{16ft.^3 \times (35Psig+14.73psi)}{(105psig+14.73psi)}$V2=16ft.3×(35Psig+14.73psi)(105psig+14.73psi)

The correct answer is: 6.65

Question text

What will the volume be if the 920 cubic inches of gas is cooled from 16°C to -7°C ? (to 2 decimals)

V_2V2 = Answer 848.49 in.3in.3

Feedback

$V_2 = \frac{V_1 T_2}{T_1}$V2=V1T2T1

$V_2=920in.^3\times\frac{(-7^oC+273)}{(16^oC+273)}V2=920in.3\times\frac{(-7^oC+273)}{(16^oC+273)}$

The correct answer is: 846.78

Question text

If 310 cubic feet of oxygen is under a pressure of 50 Psig, to what gauge pressure must the gas be compressed so that it fits into a 15 cubic foot cylinder? (to 2 decimals)

P_2P2 = Answer 4 psigpsig

Feedback

$P_2=\frac{V_1P_1}{V_2}P2=\frac{V1P1}{V2}$

$P_2=\frac{310ft.^3\times(50psig+14.73psi)}{15ft.^3}P2=\frac{310ft.3\times(50psig+14.73psi)}{15ft.3}$

$P_2=1{,}337.75psia-14.73psiP2=1,337.75psia-14.73psi$

The correct answer is: 1323.02

Question text

An 8 cubic foot air chamber at 40 Psig is released into the atmosphere. What volume will the released air have? (to 2 decimals)

V_2V2 Answer 29.77 ft.^{3}ft.3

Feedback

$V_2=\frac{V_1P_1}{P_2}V2=\frac{V1P1}{P2}$

$V_2=\frac{8ft.^3\times(40psig+14.73psi)}{14.73Psia}V2=\frac{8ft.3\times(40psig+14.73psi)}{14.73Psia}$

The correct answer is: 29.72

Question text

A gas measures 920 cubic inches at 60°F. What is its volume at 93°F?

V_2V2 = Answer 865.09 in.^{3}in.3

Feedback

$V_2=\frac{V_1T_2}{T_1}V2=\frac{V1T2}{T1}$

$V_2=\frac{920in.^3\times(93F+460)}{(60F+460)}V2=\frac{920in.3\times(93F+460)}{(60F+460)}$

The correct answer is: 978.38

Question text

Which of the following is the combined gas law formula?

Select one:

a.

V1T1P1=V2T2P2V1T1P1=V2T2P2

b.
V1P1T1=V2P2T2V1P1T1=V2P2T2

c.
V1P1T1=V2P2T2V1P1T1=V2P2T2

d.
T1P1V1=T2P2V2T1P1V1=T2P2V2

Feedback

Your answer is incorrect.

The correct answer is: V1P1T1=V2P2T2V1P1T1=V2P2T2

Question text

All gases expand the same amount when heated one degree.

Select one:

True

False

Feedback

The correct answer is 'True'.

Question text

The test dials are timed on a gas meter that is recording a flow rate of gas at pressures more than 1/2 Psi (3.45 kPa). If no allowance is made for the compression of the gas because of the pressure, the volume of flow indicated by the test dials will:

Select one:

a.
indicate the exact Btu input to the combustion chamber

b.
indicate the unit is overfired

c.
be the volume of fuel gas expressed in SCFH entering the combustion chamber

d.
indicate the unit is underfired

Feedback

Your answer is incorrect.

The correct answer is: indicate the unit is underfired

Question text

The correction factor of 1.679 would be used for a system operating at:

Select one:

a.
5 psig (34 kPa)

b.
10 psig (70 kPa)

c.
20 psig (140 kPa)

d.
2 psig (14 kPa)

Feedback

Your answer is incorrect.

$PCF = MeterPressure + LocalAtmosphericPressure StandardPressure$ PCF=MeterPressure+LocalAtmosphericPressureStandardPressure
$MeterPressure = PCF \times StandardPressure - LocalAtmosphericPressure$ MeterPressure=PCF×StandardPressure−LocalAtmosphericPressure
$MeterPressure = 1.679 \times 14.73psia - 14.73psia$ MeterPressure=1.679×14.73psia−14.73psia
$MeterPressure = 10psig$ MeterPressure=10psig

The correct answer is: 10 psig (70 kPa)

Question text

calculate the input to an appliance by using the following information:

- Local atmospheric pressure = 14.60 Psi
- Gas service line pressure = 60 Psig
- Gas pressure through the meter = 10 Psig
- House line pressure = 2 Psig

- Appliance manifold pressure = 5 inches water column
- Test dial = 0.05 m^3m3

Test dial completes one revolution in 1 minute. Calorific value of gas = 1,000 $Btu/Ft.^3$)(10.35\(kW/m^3Btu/Ft.3)(10.35\(kW/m3). The correct input is closest to which one of the following?

Select one:

a.
177,000 Btu/h (51.8 kW)

b.
536,000 Btu/h (156.9 kW)

c.
300,000 Btu/h (87.9 kW)

d.
106,000 Btu/h (31 kW)

Feedback

Your answer is incorrect.

$3{,}600_{sec.hr.}60_{sec.rev.}\times 0.05 m^3 rev.\times(10psig+14.6psi14.73psia)\times 35{,}310 Btum^3=176{,}903 Btuh$3,600sec.hr.60sec.rev.×0.05m3rev.×(10psig+14.6psi14.73psia)×35,310Btum3=176,903Btuh

The correct answer is: 177,000 Btu/h (51.8 kW)

Marked out of 1.00

Question text

Calculate the clocked input to the following boiler. The boiler has a rated input of 1,000,000 Btu/h (292.2 kW). it has four burners and operates at a manifold pressure of 7 inches water column (1.74 kPa). The fuel is natural gas with a calorific value of 1,050 $Btu/Ft.^3$Btu/Ft.3 (10.84 kW/m^3kW/m3). The building is at sea level (14.73 Psi) and is supplied with 5 Psig (34 kPa) at the meter. One revolution of the 0.1 m^3m3 test dial takes 26 seconds. The clocked input of the boiler is closest to which one of the following?

Select one:

a.
520,000 Btu/h (152 kW)

b.
688,000 Btu/h (201 kW)

c.
490,000 Btu\h (143 kW)

d.
750,000 Btu/h (220 kW)

Feedback

Your answer is incorrect.

$\frac{3{,}600\text{sec.hr.}}{26\text{sec.rev.}}\times\frac{0.1\text{m3rev.}}{35.31\text{ft.3m3}}\times(5\text{psig}+14.73\text{psi14.73psia})\times 1{,}050\text{Btuft.3}=687{,}380\text{Btuh}$3,600sec.hr.26sec.rev.×0.1m3rev.×35.31ft.3m3×(5psig+14.73psi14.73psia)×1,050Btuft.3=687,380Btuh

The correct answer is: 688,000 Btu/h (201 kW)

Question text

Calculate the input to a burner that is fired on a 50% butane-air mixture if it takes 48 seconds for the 2 ft.3ft.3 test dial to complete one revolution. The gas meter has an operating pressure of 5 Psig:

Select one:

a.
240,000 Btuh

b.
480,000 Btuh

c.
643,000 Btuh

d.
321,000 Btuh

Feedback

Your answer is incorrect.

$\frac{3{,}600\text{sec.hr.}}{48\text{sec.rev.}}\times\frac{2\text{ft.3rev.}}{}\times(5\text{psig}+14.73\text{psi14.73psia})\times 1{,}600\text{Btuft.3}=321{,}360\text{Btuh}$3,600sec.hr.48sec.rev.×2ft.3rev.×(5psig+14.73psi14.73psia)×1,600Btuft.3=321,360Btuh

The correct answer is: 321,000 Btuh

Question text

Determine the input to a appliance under the following conditions (choose the closest answer):

- Service pressure = 60 Psig
- Local atmospheric pressure = 13.38 Psi
- Seconds/revolution = 18
- Meter pressure = 5 psig
- manifold pressure =7 inches water column
- Test dial = 0.05 m^3/rev.m3/rev.
- Building line pressure = 2 Psig
- Truck in the driveway = Green
- Weather = Partly Cloudy
- Gas = 1,050 $Btu/Ft.^3$Btu/Ft.3

Select one:

a.
496,000 Btuh

b.
463,000 Btuh

c.
420,000 Btuh

d.
131,000 Btuh

Feedback

Your answer is incorrect.

$3{,}600_{sec.hr.} \div 18_{sec.rev.} \times 0.05_{m^3 rev.} \times (5Psig + 13.38Psi - 14.73Psia) \times 35.31_{ft.^3 m^3} \times 1{,}050_{Btu ft.^3} = 462{,}702 Btuh$3,600sec.hr.÷18sec.rev.×0.05m3rev.×(5Psig+13.38Psi−14.73Psia)×35.31ft.3m3×1,050Btuft.3=462,702Btuh

The correct answer is: 463,000 Btuh

Question text

Calculate the input (to the closest answer) using the following information:

- Service Pressure = 60 Psig

- Meter pressure = 5 Psig
- Manifold pressure = 3.5 inches water column
- Test dial size = (5 cubic ft)
- Seconds/revolution = 20
- Calorific value = 1,000 Btu/Ft.3Btu/Ft.3

Select one:

a.
1,205,000 Btuh

b.
4,566,000 Btuh

c.
6,300,000 Btuh

d.
900,000 Btuh

Feedback

Your answer is incorrect.

$3{,}600 sec.hr. \frac{20 sec.rev.}{} \times 5 ft.^3 rev. \times (5 Psig + 14.73 Psi \; 14.73 Psia) \times 1{,}000 \frac{Btu}{ft.^3} = 1{,}205{,}100 Btuh$

The correct answer is: 1,205,000 Btuh

Question text

An appliance is clocked on a 2 Psi meter set without correcting for the pressure. The result will be:

Select one:

a.
the appliance clocked input will be correct

b.
there is no need to clock any appliance if 2 Psi gas is used

c.
the appliance will appear to be overfired

d.
the appliance will appear to be underfired

Feedback

Your answer is incorrect.

The correct answer is: the appliance will appear to be underfired

Which of the following is not a type of burner orifice ?

Select one:

a.
Adjustable

b.
Cap / Universal

c.
Fixed

d.
Modulating

Feedback

Your answer is correct.

The correct answer is: Modulating

Question text

Which orifice would be used in a DUAL FUEL appliance (natural gas / propane) ?

Select one:

a.
Fixed

b.
Modulating

c.
Cap / Universal

d.
Adjustable

Feedback

Your answer is incorrect.

The correct answer is: Cap / Universal

Question text

Referencing the multiplier table A.15 (B149.1 Gas Code)

What is the multiplier for air ?

Select one:

a.
Not listed

b.
1

c.
0.6

d.
0.775

Feedback

Your answer is correct.

The correct answer is: 0.775

Question text

What size orifices would be required to fire a 65000 BTUH (natural gas) furnace with 3 burners at 3 inches water column manifold pressure ?

Select one:

a.
44

b.
43

c.
3/32 inch

d.
42

Feedback

Your answer is correct.

65000 / 1000 ÷ 3 burner = 21.668 CFH / Per burner

21.667 CFH @ 3 inch WC = 43 (20.76 CFH)

The correct answer is: 43

Question text

Calculate the orifice flow rate and size for each of the following appliances fired on natural gas:

Question text

An appliance is found to have a #51 orifice installed in each of its 4 burners. If fired on propane at 11 in. w.c. pressure, what would the input be? Answer 127500 Btuh

Feedback

Propane #51 @ 11" w.c. = $13.37_{CFHorifice}$13.37CFHorifice $13.37_{CFHorifice} \times 4$ Burners$\times 2{,}500_{Btuft.3} = 133{,}700Btuh$13.37CFHorifice×4 Burners×2,500Btuft.3 =133,700Btuh

The correct answer is: 133700

Question text

To change the fuel on an appliance from natural gas to propane which of the following would be done ?

Select one:

a.
Install smaller orifices , increase manifold pressure

b.
Install larger orifice , increase manifold pressure

c.
Install smaller orifice , decrease manifold pressure

d.
Install larger orifice , decrease manifold pressure

Feedback

Your answer is incorrect.

The correct answer is: Install smaller orifices , increase manifold pressure

Question text

An appliance with 5 burners is using propane at 11 inches w.c. manifold pressure. The orifice size used is found to be a #50. What would the input to this appliance be? Answer
72950 Btuh

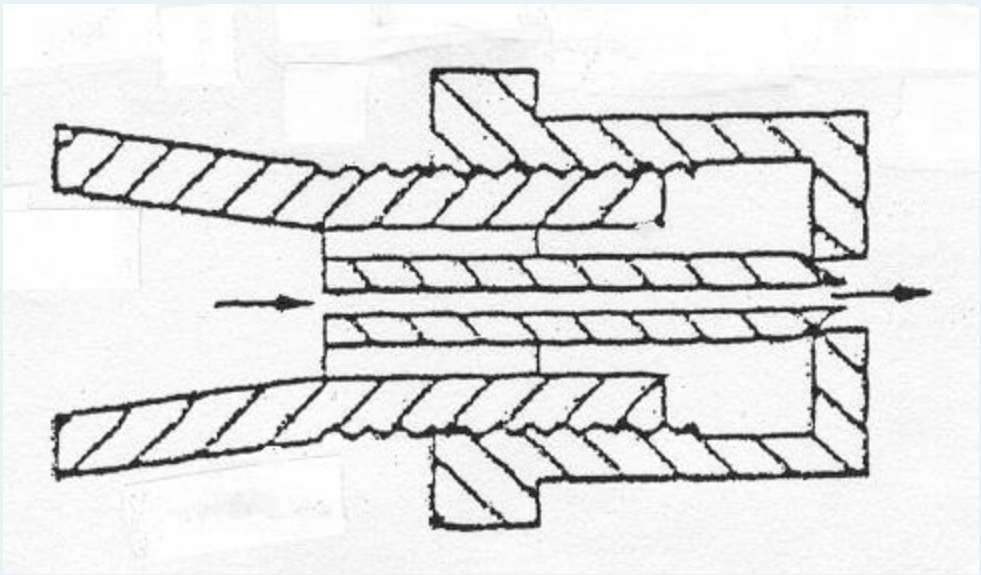
Feedback

Propane #50 @ 11" w.c. = $14.59_{CFHorifice}$14.59CFHorifice
input = $14.59_{CFHorifice} \times 5$ Burners$\times 2{,}500_{Btuft.3}$14.59CFHorifice×5 Burners×2,500Btuft.3

The correct answer is: 182375

Question text

In the diagram below, the device shown is:



Select one:

a.

a universal main burner orifice adjusted for natural gas operation

b.
an insert type pilot orifice

c.
a universal main burner orifice adjusted for propane operation

d.
a spud type pilot orifice

Feedback

Your answer is correct.

The correct answer is: a universal main burner orifice adjusted for propane operation

Question text

If the cross-sectional area of an orifice is doubled, the flow rate will be increased by:

Select one:

a.
half the original flow rate

b.
twice the original flow rate

c.
four times the original flow rate

d.
eight times the original flow rate

Feedback

Your answer is correct.

The correct answer is: twice the original flow rate

Question text

A natural gas boiler is equipped with 20 burners and fires at a manifold pressure of 3.5 in. w.c. It is determined with the use of orifice drills that each orifice is a #50. The calorific value of gas burned s 1,070 $\mathrm{Btu/Ft.^3}$Btu/Ft.3. The firing rate of the boiler will be closest to:

Select one:

a.
257,000 Btuh

b.
15,000 Btuh

c.
278,000 Btuh

d.
298,000 Btuh

Feedback

Your answer is incorrect.

Natural Gas #50 @ 3.5" w.c. = $13.87_{CFHorifice}$13.87CFHorifice
Input = $13.87_{CFHorifice} \times 20$ Burners$\times 1{,}070_{Btuft.3}$13.87CFHorifice×20 Burners×1,070Btuft.3

The correct answer is: 298,000 Btuh

Question text

A Natural Gas appliance has a rated input of 140 MBH. If the appliance has four burners and operates at a manifold pressure of 7 inches water column, the correct orifice to fire the appliance to its rated input would be:

Select one:

a.
#41

b.
#42

c.
#43

d.
#13

Feedback

Your answer is correct.

140,000Btuh1,000Btuft.3÷4 Burners=35CFHorifice140,000Btuh1,000Btuft.3÷4 Burners=35CFHorifice 35CFHorifice@7"w.c.35CFHorifice@7"w.c. = # 43

The correct answer is: #43

Question text

An appliance equipped with three burners and using natural gas at 3.5 inches water column pressure, has a rated input of 300 MBH. Select the orifices required:

Select one:

a.
#13

b.
3/16"

c.
#14

d.
#12

Feedback

Your answer is correct.

300,000Btuh1,000Btuft.3÷3 burners=100Btuorifice300,000Btuh1,000Btuft.3÷3 burners=100Btuorifice 100CFHorifice@3.5"w.c.=316"100CFHorifice@3.5"w.c.=316"

The correct answer is: 3/16"

Question text

A 375 MBH appliance which is operated on propane, has four burners fired at 11 inches water column manifold pressure. Select the orifices required:

Select one:

a.
3/16"

b.

#34

c.
#54

d.
1/8"

Feedback

Your answer is incorrect.

375,000Btuh2,500Btuft.3÷4 Burners=37.5CFHorifice375,000Btuh2,500Btuft.3÷4 Burners=37.5CFHorifice
37.5CFHorifice@11"w.c.=37.5CFHorifice@11"w.c.= #34

The correct answer is: #34

Question text

Which orifice would have the highest flow rate?

Select one:

a.
#24 @ 4 inches water column

b.
#25 @ 4 inches water column

c.
#25 @ 3 inches water column

d.
#24 @ 3 inches water column

Feedback

Your answer is incorrect.

The correct answer is: #24 @ 4 inches water column

Question text

A propane-air mixture has a specific gravity of 1.3 and a calorific value of 1,250 Btu/Ft.3Btu/Ft.3. If an appliance has a rated input of 200 MBH and has five burners operating on 4 inches water column manifold pressure, what is the required orifice size?

Select one:

a.
#45

b.
#38

c.
#31

d.
#33

Feedback

Your answer is correct.

$200{,}000\text{Btuh}1{,}250_{\text{Btuft.3}}\div 5$ Burners=32CFHorifice200,000Btuh1,250Btuft.3÷5 Burners=32CFHorifice
$32_{\text{CFHorifice}}\div 0.68(\text{multiplierforSg.1.3})=47.06_{\text{CFHorifice}}$32CFHorifice÷0.68(multiplierforSg.1.3)
=47.06CFHorifice
$47.06_{\text{CFHorifice}}@4\text{"w.c.}$=47.06CFHorifice@4"w.c.= #31

The correct answer is: #31

Question text

An appliance has a high altitude rating of 245,500 Btuh and a sea level rating of 337,750 Btuh. Match the calculated de-rated inputs to the given elevations if they were installed at these elevations.

9,600 Ft. Answer 1 [337,750 Btuh]
6,600 Ft. Answer 2 [245,500 Btuh]
2,100 Ft. Answer 3 [216,040 Btuh]
375 Ft. Answer 4 [186,580 Btuh]

Feedback

Your answer is incorrect.

The correct answer is: 9,600 Ft. → 186,580 Btuh, 6,600 Ft. → 216,040 Btuh, 2,100 Ft. → 245,500 Btuh, 375 Ft. → 337,750 Btuh

Question text

A boiler certified for high altitude is installed at an elevation of 5,500 feet. The rating plate indicates a sea level rating of 150,000 Btuh and a high altitude rating of 130,000 Btuh. The boiler should be adjusted to an input of:

Select one:

a.
150,000 Btuh

b.
130,000 Btuh

c.
124,800 Btuh

d.
109,200 Btuh

Feedback

Your answer is incorrect.

130,000 Btuh - 4% = 124,800 Btuh

The correct answer is: 124,800 Btuh

Question text

To double the gas flow through the orifice of an atmospheric burner, the manifold pressure shall be increased by:

Select one:

a.
50%

b.
four times

c.
double

d.

three times

Feedback

Your answer is incorrect.

$Q=\Delta P---\sqrt{Q=\Delta P}$
$2_2=\Delta P22=\Delta P$
$4=\Delta P4=\Delta P$

The correct answer is: four times

Question text

Find the orifice sizes required for the following appliances:

385,000 Btuh; Calorific Value = 1,050 $Btu/Ft._3$Btu/Ft.3; 5 Burners; Manifold Pressure = 3.5 inches water column; Specific Gravity = 0.6

Select one:

a.
#21

b.
#20

c.
#22

d.
#19

Feedback

Your answer is correct.

$385{,}000Btuh1{,}050_{Btuft.3}\div 5$ Burners$=73.333_{CFHorifice}385{,}000Btuh1{,}050Btuft.3\div 5$ Burners$=73.333$CF Horifice
$73.333_{CFHorifice}@3.5"w.c.=73.333$CFHorifice@3.5"w.c.= #21

The correct answer is: #21

Question text

225,000 Btuh; Calorific Value = 1,350 $Btu/Ft._3$Btu/Ft.3; 4 Burners; Manifold Pressure = 4 inches water column; Specific Gravity = 1.2

Select one:

a.
#30

b.
#31

c.
#28

d.
#29

Feedback

Your answer is correct.

225,000Btuh1,350Btuft.3÷4 Burners=41.667CFHorifice225,000Btuh1,350Btuft.3÷4 Burners=41.667CF Horifice
41.667CFHorifice÷0.707(multiplierforSg.)=58.934CFHorifice@"w.c.=41.667CFHorifice÷0.707(multiplierforSg.)=58.934CFHorifice@"w.c.= #29

The correct answer is: #29

Question text

1,300 MBH; Calorific Value = 985 Btu/Ft.3Btu/Ft.3; 10 Burners; Manifold Pressure = 3 inches water column; Specific Gravity = 0.9

Select one:

a.
C

b.
B

c.
D

d.
E

Feedback

Your answer is correct.

1,300,000Btuh985Btuft.3÷10 Burners=131.98CFHorifice1,300,000Btuh985Btuft.3÷10 Burners=131.98CFHorifice
131.98CFHorifice÷0.817(MultiplierforSg.)=161.542CFHorifice@3"w.c.="D"131.98CFHorifice÷0.817(MultiplierforSg.)=161.542CFHorifice@3"w.c.="D"

The correct answer is: D

Question text

475,000 Btuh; Calorific Value = 1,000 Btu/Ft.3Btu/Ft.3; 8 Burners; Manifold Pressure = 3.5 inches water column; Specific Gravity = 0.6

Select one:

a.
#29

b.
#28

c.
#27

d.
#26

Feedback

Your answer is correct.

475,000Btuh1,000Btuft.3÷8 Burners=59.375CFHorifice@3.5"w.c.=475,000Btuh1,000Btuft.3÷8 Burners=59.375CFHorifice@3.5"w.c.= #27

The correct answer is: #27

Question text

160,000 Btuh; Calorific Value = 1,250 Btu/Ft.3Btu/Ft.3; 4 Burners; Manifold Pressure = 5 inches water column; Specific Gravity = 0.8

Select one:

a.
#38

b.
#37

c.
#35

d.
#36

Feedback

Your answer is correct.

160,000Btuh1,250Btuft.3÷4 Burners=32CFHorifice160,000Btuh1,250Btuft.3÷4 Burners=32CFHorifice 32CFHorifice÷0.867(MultiplierforSg.)=36.909CFHorifice@5"w.c.=32CFHorifice÷0.867(MultiplierforSg.)=36.909CFHorifice@5"w.c.= #37

The correct answer is: #37

Question text

650,000 Btuh; Calorific Value = 1,070 Btu/Ft.3Btu/Ft.3; 6 Burners; Manifold Pressure = 3 inches water column; Specific Gravity = 0.8

Select one:

a.
#5

b.
#2

c.
#4

d.
#3

Feedback

Your answer is correct.

650,000Btuh1,070Btuft.3÷6 Burners=101.246CFHorifice650,000Btuh1,070Btuft.3÷6 Burners=101.246CFHorifice

101.246CFHorifice÷0.867(MultiplierforSg.)=116.778CFHorifice@3"w.c.=101.246CFHorifice÷0.867(MultiplierforSg.)=116.778CFHorifice@3"w.c.=

The correct answer is: #4

Question text

How much air could pass through a #40 orifice at 3.5 inches water column? Answer 271900 CFHorificeCFHorifice

Feedback

#40 @ 3.5" w.c.
= 27.19CFHorifice(NaturalGas)×0.775(MultiplierforSg.)=21.07CFHorifice27.19CFHorifice(NaturalGas)×0.775(MultiplierforSg.)=21.07CFHorifice

The correct answer is: 21.07

Question text

An appliance has a sea level rating of 250 MBH and a high altitude rating of 220 MBH. The rating plate specifies a manifold pressure of 3.5 inches water column. When you look in the combustion chamber, you notice 5 upshot multi-port burners. The fuel gas supplied to this appliance has a calorific value of 0.314 kW/ft.3kW/ft.3 and a specific gravity of 0.65. If you are installing this appliance at an elevation of 6,000 feet above sea level, what size of orifices would be required to fire the appliance to its rated input?

Select one:

a.
#32

b.
#31

c.
#34

d.
#33

Feedback

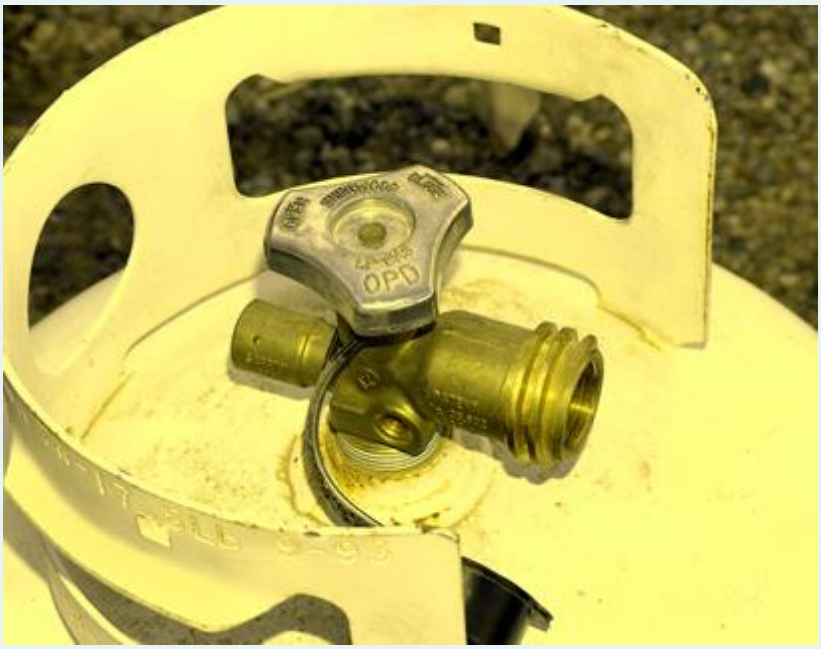
Your answer is incorrect.

220,000Btuh−8220,000Btuh−8 % =202,400Btuh=202,400Btuh
0.314kWft.3÷0.000293kWBtu=1,072Btuft.30.314kWft.3÷0.000293kWBtu=1,072Btuft.3

202,400Btuh1,072Btuft.3÷5 Burners=37.761CFHorifice202,400Btuh1,072Btuft.3÷5 Burners=37.761CF Horifice
37.761CFHorifice÷0.962(MultiplierforSg.)=39.253CFHorifice37.761CFHorifice÷0.962(MultiplierforSg.)=39.253CFHorifice
39.253CFHorifice@3.5"w.c.=39.253CFHorifice@3.5"w.c.= #32

The correct answer is: #32

The drawing below is of a propane:



Select one:

a.

evacuation valve for large tanks

b.

valve with overfill protection device

c.

cylinder liquid withdrawal valve

d.

liquid withdrawal valve for a forklift

Feedback

Your answer is correct.

The correct answer is: valve with overfill protection device

Question text

The smallest size cylinder, known as a disposable type, is:

Select one:

a.

5 pounds

b.

10 pounds

c.

20 pounds

d.

1 pound

Feedback

Your answer is correct.

The correct answer is: 1 pound

Question text

What is the sum of all whole numbers from 1 to infinity? $\sum n=1\downarrow,\infty\uparrow\sum n=1\downarrow,\infty\uparrow$

Select one:

a.

Cannot be determined

b.

-1/12

c.

∞

d.

0

Feedback

Your answer is incorrect.

find the proof here if you're curious :

https://www.youtube.com/watch?v=w-I6XTVZXww

The correct answer is: -1/12

Question text

The largest size cylinder is:

Select one:

a.

1,000 pounds

b.

500 pounds

c.

100 pounds

d.

250 pounds

Feedback

Your answer is incorrect.

The correct answer is: 500 pounds

Question text

Liquid propane capacity is listed on tanks in:

Select one:

a.

pounds of propane

b.

pounds for small tanks and gallons for big tanks

c.

pounds or gallons of propane on all tanks

d.

gallons of water capacity

Feedback

Your answer is correct.

The correct answer is: gallons of water capacity

Question Question text

The type of thread connection found on the outlet of a vapour service valve is:

Select one:

a.

POL

b.

NPT

c.

BSPT

d.

NPS

Feedback

Your answer is correct.

The correct answer is: POL

Question text

The relief valve start-to-discharge pressure for a cylinder is:

Select one:

a.

312 Psig

b.

420 Psig

c.

250 Psig

d.

375 Psig

Feedback

Your answer is correct.

The correct answer is: 375 Psig

Question text

A data plate with construction information is found attached to:

Select one:

a.

cylinders and tanks

b.

cylinders

c.

tanks

d.

cylinders over 420 pounds capacity

Feedback

Your answer is correct.

The correct answer is: tanks

Question text

When calculating the *effective load* that an appliance will place on a propane container, which formula should be used?

Select one:

a.

Effective load = weight of propane X load factor

b.

Effective load = input X load factor

c.

Effective load = gallons of liquid propane X 91,500

d.

Effective load = Btu/H of input

Feedback

Your answer is correct.

The correct answer is: Effective load = input X load factor

Question text

Calculate the effective load on a propane container supplying a 100,000 Btu/h central heating furnace: Answer 50000 Btuh

Feedback

100,000 Btuh x 0.5 = 50,000 Btuh

The correct answer is: 50000

Question text

Calculate the effective load on a propane storage container for a 50,000 Btu/h construction heater: Answer 50000 Btu

Feedback

50,000 Btuh x 1 = 50,000 Btu

The correct answer is: 50000

Question text

A propane-fired furnace at 100,000 Btu/h and hot water tank at 40,000 Btu/h are connected to an above ground storage tank. If the lowest winter temperature in the area is 10ºF,

calculate the size of the propane storage tank required at 75% humidity: Answer 1000 Gal. Tank

Feedback

Furnace 100,000 Btuh x 0.5 = 50,000 Btuh

Hot Water Tank 40,0000 Btuh x 0.16 = 6,400 Btuh

Total = 56,400 Btuh

56,400 Btuh @ 10ºF and 80% Humidity = 1,000 Gal. Tank

The correct answer is: 1000

he type of container usually considered portable would be a Cylinder .

Feedback

Your answer is correct.

The correct answer is:

The type of container usually considered portable would be a [Cylinder].

Question text

A 20lb propane cylinder would hold Answer 17 pounds of liquid propane.

Feedback

The correct answer is: 20

Question text

The density of liquid propane is Answer 493 lbs / cubic foot.

Feedback

The correct answer is: 31.8

Question text

The Tank weight of a cylinder is the weight of an empty cylinder with valve.

Feedback

Your answer is incorrect.

The correct answer is:

The [Tare] weight of a cylinder is the weight of an empty cylinder with valve.

Question text

The Gas in a propane cylinder will vary widely with ambient temperature.

Feedback

Your answer is incorrect.

The correct answer is: The [Pressure] in a propane cylinder will vary widely with ambient temperature.

Question text

The pressure relief valve setting on a propane cylinder is typically Answer 375 psig.

Feedback

The correct answer is: 375

Question text

The maximum permitted fill level of a propane cylinder Answer 80 percent.

Feedback

The correct answer is: 80

Question text

At atmospheric pressure , propane is found in what physical state ? Vapour

Feedback

Your answer is incorrect.

The correct answer is:

At atmospheric pressure , propane is found in what physical state ? [Gas]

Question text

Vaporization of gas creates a natural _____ effect.

Select one:

a.

Refrigeration

b.

Vapourization

c.

Heating

d.

Condensing

Feedback

Your answer is incorrect.

The correct answer is: Refrigeration

Question text

What name is given to the connection that is utilized for vapor service applications ?

Select one:

a.

P.O.L

b.

C.S.A

c.

M.V.P

d.

L.O.P

Feedback

Your answer is correct.

The correct answer is: P.O.L

Question text

The Wetted area of a container is the specific area that comes into contact with the LP gas liquid.

Feedback

Your answer is correct.

The correct answer is:

The [Wetted] area of a container is the specific area that comes into contact with the LP gas liquid.

Question text

The greater the wetter area the greater the Surface vaporization rate.

Feedback

Your answer is incorrect.

The correct answer is:

The greater the wetter area the greater the [Liquid] vaporization rate.

Question text

The largest portable LP gas container would be a Answer 260 pound cylinder.

Feedback

The correct answer is: 500

Given a closed container in which there is 16 cubic feet of air at 35 PSIG, what will the volume of air be if water is forced into the container until the pressure becomes 105 PSIG?

Answer cu.Ft

Feedback

V1P1 = V2P2

V2 = (V1P1)/P2

V2 = (16 x 49.73) / 119.73

V2 = 6.646 cu.Ft

Don't forget all pressures must be entered as PSI**A**

The correct answer is: 6.646

Marked out of 1.00

Question text

What will the volume be if 920 cubic inches of gas is cooled from 16C to -7C?

Answer cu.in

Feedback

V1/T1 = V2/T2

V2 = (V1T2) / T1

V2 = (920 x 266) / 289

V2 = 846.782 cu.in

The correct answer is: 846.782

Question text

If 310 cubic feet of oxygen is under a pressure of 50 PSIG, to what gauge pressure must the gas be compressed so that it fits into a 15 cubic foot cylinder?

Answer PSIG

Feedback

V1P1 = V2P2

P2 = (V1P1) / V2

P2 = (310 x 64.73) / 15

P2 = 1337.753 psia

PSIG = PSIA - Atmospheric Pressure

PSIG = 1337.753 - 14.73

PSIG = 1323.023

The correct answer is: 1323.023

Question text

An 8 cubic foot air chamber at 40 PSIG is released into the atmosphere. What volume will the released air have?

Answer cu.Ft

Feedback

V1P1 = V2P2

V2 = (V1P1)/P2

V2 = (8 x 54.73) / 14.73

V2 = 29.724 cu.Ft

Don't forget all pressures must be entered as PSI**A**

The correct answer is: 29.724

Question text

A gas measures 920 cubic inches at 60F. What is its volume at 93F?

Answer cu.in

Feedback

V1/T1 = V2/T2

V2 = (V1T2) / T1

V2 = (920 x 553) / 520

V2 = 978.385 cu.in

The correct answer is: 978.385

Question text

A compression tank in a hot water space heating system contains 4 cu.ft. at 5 PSIG. What will the pressure be when the air volume is 2 cu.ft.?

Answer PSIG

Feedback

V1P1 = V2P2

P2 = (V1P1) / V2

P2 = (4 x 19.73) / 2

P2 = 39.46 psia

PSIG = PSIA - Atmospheric Pressure

PSIG = 39.46 - 14.73

PSIG = 24.73

The correct answer is: 24.73

Question text

Select Boyles Law:

Select one:

a.

V1P1 = V2P2

b.

P1/T1 = P2/T2

c.

V1/P1 = V2/T2

d.

V1/T1 = V2/T2

Feedback

Your answer is incorrect.

The correct answer is: V1P1 = V2P2

Question text

Select Charles' Law I and II:

Select one or more:

a.

V1/P1 = V2/P2

b.

V1/T1 = V2/T2

c.

T1/P1 = T2/P2

d.

P1/V1 = P2/V2

e.

P1/T1 = P2/T2

Feedback

Your answer is incorrect.

CL #1 - P1/T1 = P2/T2

CL #2 - V1/T1 = V2/T2

The correct answers are: P1/T1 = P2/T2, V1/T1 = V2/T2

Question text

All gases expand the same amount when heated one degree.

Select one:

True

False

Feedback

The correct answer is 'True'.

Question text

The smallest size cylinder, known as a disposable type, is:

Select one:

a.

20 pounds

b.

10 pounds

c.

1 pound

d.

5 pounds

Feedback

Your answer is incorrect.

The correct answer is: 1 pound

Question text

The largest size cylinder is:

Select one:

a.

100 pounds

b.

1,000 pounds

c.

500 pounds

d.

250 pounds

Feedback

Your answer is incorrect.

The correct answer is: 500 pounds

Question text

Liquid propane capacity is listed on tanks in:

Select one:

a.

pounds for small tanks and gallons for big tanks

b.

pounds or gallons of propane on all tanks

c.

pounds of propane

d.

gallons of water capacity

Feedback

Your answer is incorrect.

The correct answer is: gallons of water capacity

Question text

The type of thread connection found on the outlet of a vapour service valve is:

Select one:

a.

POL

b.

NPS

c.

BSPT

d.

NPT

Feedback

Your answer is incorrect.

The correct answer is: POL

Question text

The relief valve start-to-discharge pressure for a cylinder is:

Select one:

a.

250 psig

b.

420 psig

c.

375 psig

d.

312 psig

Feedback

Your answer is incorrect.

The correct answer is: 375 psig

Question text

A data plate with construction information is found attached to:

Select one:

a.

cylinders

b.

cylinders over 420 pounds capacity

c.

tanks

d.

cylinders and tanks

Feedback

Your answer is incorrect.

The correct answer is: tanks

Question text

When calculating the effective load that an appliance will place on a propane container, which formula should be used?

Select one:

a.

Effective load = weight of propane x load factor

b.

Effective load = Btu/h of input

c.

Effective load – gallons of liquid propane x 91,500

d.

Effective load = input x load factor

Feedback

Your answer is incorrect.

The correct answer is: Effective load = input x load factor

Question text

Calculate the effective load on a propane container of a 100,000 Btu/h domestic furnace:

Answer Btuh

Feedback

Effective Load = 100,000 Btuh x 0.5 = 50,000 Btuh

The correct answer is: 50000

Question text

Calculate the effective load on a propane storage container of a 50,000 Btu/h construction heater:

Answer Btuh

Feedback

Effective Load = 50,000 Btuh x 1 = 50,000 Btuh

The correct answer is: 50000

Referring to the tables in the text. A propane-fired furnace at 100,000 Btu/h and hot water tank at 40,000 Btu/h are connected to an above ground storage tank. If the lowest winter temperatures in the area are 10F, calculate the size of the propane storage tank required (at 70% humidity):

Answer gallon tank

Feedback

100,000 Btuh x 0.5 = 50,000 Btuh

40,000 Btuh x 0.16 = 6,400 Btuh

Total = 56,400 Btuh

Table A-1 = 500 gallon tank

The correct answer is: 500

Question text

A storage type hot water tank rated at 35,000 Btu/h is designed to fire on low pressure natural gas (C.V. 1,050 Btu/cu.ft.). You clock the meter and find that it takes 50 seconds for one complete revolution of the 1/2 cubic foot test dial. This indicates that the appliance is:

Select one:

a.

over-firing and the orifice will have to be decreased in size

b.

under-fired and the orifice will have to be increased in size

c.

under-fired and the orifice will have to be decreased in size

d.

firing correctly and no adjustments are necessary

Feedback

Your answer is incorrect.

3600*sec/hr* ÷ 0.5*cu.Ft/rev* x 1050*Btu/cu.Ft* = **37800 Btuh**

The correct answer is: over-firing and the orifice will have to be decreased in size

Determine the input under the following conditions:

- Natural gas @ 1000 Btu/ cu ft
- 1.5 minutes per revolution
- 0.01 cu m test dial
- 4 inch water column manifold pressure
- 5 psig meter pressure
- 60 psig service pressure
- 14.36 psia local atmospheric pressure
- 60 degree F ambient

Answer:

Feedback

Input = $3600 \times \text{testdialsec/rev} \times \text{calorificvalue} \times \text{PCF}$ $3600 \times \text{testdialsec/rev} \times \text{calorificvalue} \times \text{PCF}$
= $3600 \times 0.0190 \times 35310 \times 1.314$ $3600 \times 0.0190 \times 35310 \times 1.314$

The correct answer is: 18559

Question text

Calculate the flow rate given the following conditions : (convert to standard conditions)

- Service pressure - 60 psig
- Meter pressure - 5 psig
- Manifold pressure - 7 inch water column
- Size of test dial - 5 cu ft
- Time per revolution - 1.5 minutes

Answer:

Feedback

Flow Rate

$= \text{secondperhour} \times \text{testdialsecondsperrevolution} \times \text{PCF} \text{secondperhour} \times \text{testdialsecondsperrevolution} \times \text{PCF}$

$= 3600 \times 590 \times 1.339 3600 \times 590 \times 1.339$

The correct answer is: 267.8

Question **3**

Question text

Calculate the input given the following conditions :

- Service pressure - 50 psig
- House pressure - 10 psig
- Meter pressure - 10 psig
- Test dial - 5 cu ft
- Time per revolution - 30 seconds
- Ambient temperature - 70 degree F
- Temperature of gas - 50 degree F
- Local barometric pressure - 14.69 psig

Calorific value - 1000 Btu/cu ft

Answer:

Feedback

Input = $\frac{3600 \times \; test \; dial}{sec \; / rev} \; \times \; calorific \; value \; \times PCF \times TCF$

$\frac{3600 \; \times \; 5}{30} \; \times 1000 \; \times 1.676 \; \times 1.020$

The correct answer is: 1025712

Question text

Calculate the time for one revolution of a 2 cu ft test dial given :

- Input - 1575 MBH
- Local barometric pressure - 14.25 psia
- Ambient temperature - 45 degree F
- Gas temperature - 50 degree F
- Calorific value of gas - 1050 Btu / cu ft
- Meter pressure - 10 psig

Answer:

Feedback

inp stand for = input

Input
$= 3600 \times testdialsec/rev \times calorificvalue \times PCF \times TCF3600 \times testdialsec/rev \times calorificvalue \times PCF \times TCF$
$sec/rev = 3600 \times testdialinp \times calorificvalue \times PCF \times TCF3600 \times testdialinp \times calorificvalue \times PCF \times TCF$
$= 3600 \times 21575000 \times 1050 \times 1.646 \times 1.0193600 \times 21575000 \times 1050 \times 1.646 \times 1.019$

The correct answer is: 8

While clocking a boiler, the 0.05 cu m test dial takes 24 seconds for one revolution. The system is being supplied with natural gas at a calorific value of 1025 Btu/ cu ft. The pressure through the meter is 35 kPa. what is the input to the appliance in btu's?

Answer:

Feedback

Input $= 3600 \times testdialsec/rev \times calorificvalue \times PCF3600 \times testdialsec/rev \times calorificvalue \times PCF$
$= 3600 \times 0.0524 \times 36193 \times 1.3453600 \times 0.0524 \times 36193 \times 1.345$

The correct answer is: 365097 Flag question

Question text

A furnace is rated at 500 MBH and is fired on natural gas with a calorific value of 1000 Btu / cu ft. If you were to clock the 2 cu ft , how long would you expect the test dial to make one revolution? (assume low pressure).

Answer:

Feedback

Input = \(\frac{3600 \; \times \; test \; dial}{sec \; / rev} \; \times caloric \; value

sec / rev = \(\frac{3600 \; \times \; test \; dial}{inp} \; \times caloric \; value

sec / rev = \(\frac{3600 \; \times \; 2}{500000} \; \times 1000

The correct answer is: 14.4

Question **3**Question text

A viessmann vitrodens 200 wall-mounted condensing boiler is rated at 67 kW. Natural gas is supplied to the boiler at a calorific value of 1000 Btu/ cu ft. The manifold pressure is 3.5 inch water column and the pressure through the meter is 2 psi. It takes 19 seconds for the needle to go once around the 1 cu ft test dial. Is this unit overfired or underfired and by how much ?

Boiler Input

Input =	**Answer** **Btuh**	**Answer**

Feedback

Input = $3600 \times testdialsecrev \times calorificvalue \times PCF$3600×testdialsecrev×calorificvalue×PCF
= $3600 \times 119 \times 1000 \times 1.136$3600×119×1000×1.136

Question text

A john wood signature series commercial hot water tank is fired on propane with a calorific value of 0.738 kW/ ft. The 2 cu ft takes 80 seconds for one revolution through the 5 psi meter. What is the input to the boiler in kw/hr ?

Answer:

Feedback

Input = $3600 \times testdialsec/rev \times calorificvalue \times PCF$3600×testdialsec/rev×calorificvalue×PCF
= $3600 \times 280 \times 0.738 \times 1.339$3600×280×0.738×1.339

The correct answer is: 89.94

What would the temperature correction factor be if the ambient temperature is 65 degree F and the temperature of the gas is 50 degree F.

Note : Temperature must be in absolute

Answer:

Feedback

TCF = $standardtemperaturetemperatureofgas$standardtemperaturetemperatureofgas
= $60+46050+460$60+46050+460

The correct answer is: 1.019

Question text

Calculate the input given the following conditions :

- House pressure - 5 psig
- Manifold pressure - 3.5 inches water column
- Service pressure - 60 psig
- Meter pressure - 5 psig
- Local barometric pressure - 14.69 psi
- Ambient temperature - 65 degree F
- Temperature of gas - 50 degree F
- Gas used - natural - 1000 Btus / cu ft
- Time for one revolution - 34 seconds
- Test dial - 2 cu ft

Answer:

Feedback

Input
$= 3600 \times testdialsec/rev \times calorificvalue \times PCF \times TCF 3600 \times testdialsec/rev \times calorificvalue \times PCF \times TCF$
$= 3600 \times 234 \times 1000 \times 1.337 \times 1.019 3600 \times 234 \times 1000 \times 1.337 \times 1.019$

The correct answer is: 288509

Question text

Calculate the number of seconds it takes for the 1 cu ft test dial to make one complete revolution given :

- Meter pressure - 2 psig
- Temperature of gas - 60 degree F
- Ambient temperature - 32 degree F
- Gas used - natural - 1050 Btus / cu ft
- Input of unit - 400 MBH

Answer:

Feedback

Inp stands for input

Input $= 3600 \times testdialsec/rev \times calorificvalue \times PCF 3600 \times testdialsec/rev \times calorificvalue \times PCF$
#sec/rev $= 3600 \times testdialinp \times calorificvalue \times PCF 3600 \times testdialinp \times calorificvalue \times PCF$
#sec/rev $= 3600 \times 1400000 \times 1050 \times 1.1363600 \times 1400000 \times 1050 \times 1.136$

The correct answer is: 10.74

Question text

Calculate the input given the following conditions :

-Meter Pressure = 10"wc.

-Test Dial = 5 Cu. Ft.

-Gas Temperature = 50 F

-Ambient Temperature = 45 F

-Sec. Per Rev. = 45 Seconds

-Propane Gas = 2500 Btu's / Ft3

Answer:

Feedback

Input = $3600 \times testdialsec/rev \times calorificvalue \times TCF 3600 \times testdialsec/rev \times calorificvalue \times TCF$
$= 3600 \times 545 \times 2500 \times 1.0193600 \times 545 \times 2500 \times 1.019$

The correct answer is: 1019000

Meter test dial - 2 cubic feet

Clocked time per revolution - 75 seconds

Gas used - natural gas at 0.293 kW per cubic foot

Meter gas pressure - 15 psig

Correction factor : Answer

Input : Answer

kW

Feedback

Correction factor = (14.73+15) / 14.73

Question text

Meter test dial - 0.15 cubic meters

Clocked time per revolution - 25 seconds

Gas used - 10.35 kW per cubic meter

Meter gas pressure - 35 kPa

Correction Factor : Answer

Input : Answer

kW

Feedback

Correction Factor : 101.325 + 35 / 101.325

Question text

Meter test dial - 2.5 cubic meters

Clocked time per revolution - 25 seconds

Gas used - natural gas at 35310 Btu / cubic meter

Meter has pressure - 20 psig

Correction Factor : Answer

Input : Answer

Btuh

Feedback

14.73 + 20 / 14.73

Question text

Meter test dial - 1 cubic foot

Clocked time per revolution - 35 seconds

Gas used - propane at 2500 Btu per cubic foot

Meter gas pressure - 10 psig

Correction Factor : Answer

Input : Answer

Btuh

Feedback

14.73 + 10 / 14.73

State the length of time it will take for a one cubic foot test dial to make one revolution when clocking the input of a boiler rated at 225000 Btuh fired on CH4.

Answer:

Feedback

T = 3600secH×1×1000Btu/cuft225000BTUH3600secH×1×1000Btu/cuft225000BTUH

The correct answer is: 16

Question **2**

Not answered

Marked out of 6.00

Flag question

Question text

Calculate the input for the appliances below. The heating value is 1000 Btu/ cu ft. The installations are low pressure system at 7 inches water column.

Input for the Appliances

Time per revolution	Test Dial Size	Calculated Input
10 Seconds	1 cubic foot	Answer

Input for the Appliances

Time per revolution	Test Dial Size	Calculated Input
		Btuh
18 Seconds	0.6 cubic foot	Answer Btuh
1 Minute	2 cubic foot	Answer Btuh
24 Seconds	1 cubic foot	Answer Btuh
20 Seconds	0.5 cubic foot	Answer Btuh
40 Seconds	0.2 cubic foot	Answer Btuh

Question **3**
Not answered
Marked out of 1.00

Flag question

Question text

A boiler has a rated input of 43.95 kW/HR. Clock the appliance using the 1 cubic foot test dial which takes 25 seconds for 1 revolution on the low pressure meter use a heating value is 10.35 kW per cubic meter.

- How many cubic meters of fuel are being consumed ?

Answer

cu m per hour

Feedback

$3600\text{sec/h} 25\text{sec/h} \times 1\text{cuft/rev} 3600\text{sec/h} 25\text{sec/h} \times 1\text{cuft/rev}$
= 144 CFH / 35.31 cu ft / cu m

Question text

- How many kW of fuel is this ? Answer kW / H

Feedback

4.078 cu m / H x 10.35 kw / cu m = 42.209 kW / H

The correct answer is: 42.209

Question **5**

Question text

- Is the unit over-fired or under-fired ?

Select one:

a.
Over fired

b.
Under fired

Feedback

Your answer is incorrect.

Under fired but acceptable

The correct answer is: Under fired

Question text

A direct fired make up air heater has an input rating of 210000 Btuh. It has one burner with a 0.05 cubic meter test dial that takes 30 seconds for one revolution. Heating value is 1000 Btu / cubic foot.

- How many cubic feet of fuel are being consumed ?

Answer CFH.

Feedback

3600sec/H30sec/rev×3600sec/H30sec/rev× 0.05 cu m / H

6 cu m / h x 35.31 cu ft / cu m

The correct answer is: 211.86

Question text

- How many Btus of fuel is this ?

Answer BTU H

Feedback

211.86 CFH x 1000 BTU / cu ft

The correct answer is: 211860

Question text

- Is the unit under fired or over fired ?

Select one:

a.
Over fired

b.
Under fired

Feedback

Your answer is incorrect.

The correct answer is: Over fired

Question text

Calculate the input for a furnace given the following information :

- It took 50 seconds for a 2 cubic foot test dial to complete one revolution
- The gas is flowing through the meter at a pressure of 5 psi
- The selling pressure is 7 inch water column (0.25 psi)
- The local atmospheric pressure is 14.7
- The heating value of the fuel gas is 1250 Btu per cubic foot

Answer:

Feedback

3600sec/H50sec/rev3600sec/H50sec/rev x 2 cu ft / rev x 5psig+14.714.735psig+14.714.73 = 192.587 CFH
192.587 CFH x 1250 BTU / cu ft

The correct answer is: 240733

Question text

Calculate the input (kW) for an appliance given the following information :

- It took 38 seconds for a 0.05 cubic meter test dial to complete one revolution
- The gas is flowing through the meter at a pressure of 35 kPa
- The selling pressure is 1.38 kPa
- The local atmospheric pressure is 101.325 kPa
- The heating value of the gas is 10.5 kW / cu meter

Answer:

Feedback

3600sec/H38sec/rev3600sec/H38sec/rev x 0.05 cu m / rev
x 35kPa+101.325101.325kPa35kPa+101.325101.325kPa = 6.373 cu m /

6.373 cu m / h x 10.5 kw/ cu m

The correct answer is: 66.917
Your answer is incorrect.

The correct answer is: An appliance that operates with a non-positive vent static pressure with a flue loss not less than 17%. → Category 1 Appliance, That portion of the combustion air that is supplied for the intermediate and final stages of the combustion process and is supplied downstream from the point of ignition → Secondary Air,
Acceptable to the authority having jurisdiction. → Approved, Air that is admitted to a space containing an appliance to replace air exhausted through a ventilation opening or by means of exfiltration. → Ventilation Air,
The air required for satisfactory combustion of gas including excess air. → Combustion Air, That portion of the combustion air that is supplied to the combustion zone in excess of that which is theoretically required for complete combustion. → Excess Air, That part of a piping or tubing system that conveys gas from the main piping or tubing or header to an appliance or appliances. → Branch Line, That portion of the combustion air that is supplied for the initial stages of the combustion process and is supplied upstream of the point of combustion → Primary Air, The ambient air that is admitted to a venting system at the draft hood, draft diverter, or draft regulator. → Flue Gas Dilution Air, An appliance intended to supply hot liquid or vapor for space heating, processing, or power purposes → Boiler

Your answer is incorrect.

The correct answer is: A primarily vertical shaft that encloses at least one flue for conducting flue gases outdoors → Chimney, A mechanical draft produced by a device upstream from the combustion zone of an appliance → Forced Draft, A burner in which the combustion air is supplied by a mechanical device such as a fan or blower at sufficient pressure to overcome the resistance of the burner and the appliance → Forced-Draft Burner, A burner that is not equipped with a mechanical device for supplying combustion air. → Natural-Draft Burner, A draft control device intended to stabilize the natural draft in an appliance by admitting room air to the venting system. A double-acting draft regulator is one whose balancing damper is free to move in either direction. → Draft Regulator (Barometric Damper),
A factory-fabricated flexible hose assembly and related fittings designed to convey gaseous fuel from a gas supply piping to the gas inlet to an appliance. → Gas Hose, A secondary structure (room) within or attached to a structure (building) in which an appliance(s) is installed. → Enclosure,

Piping or tubing that, when in place in a wall, or ceiling of a finished building, is hidden from view and can only be exposed by use of a tool. It does not apply to piping or tubing that passes directly through a wall or partition. → Concealed Piping or Tubing, A mechanical draft produced by a device downstream from the combustion zone of an appliance → Induced Draft, Constituents resulting from the combustion of gas with oxygen of the air and includes inert gases, but excludes excess air → Combustion Products

The correct answer is:
Means a pilot flame supervised by a primary safety control which senses the presence of the pilot prior to gas being admitted to the main burner. → Proved Pilot, A source of ignition which continues to function during the entire period that the flame is present. → Intermittent Ignition, To replace the existing fluid (gaseous or liquid) in piping, tubing, equipment, a container or an appliance, with a desired fluid. → Purge, A heater which transfers heat from the source to the heated objects without heating the intervening air → Infrared Heater, A flame that is used to ignite a gas/air or propane/air mixture at the main burner or burners. → Pilot,
A source of ignition which ceases to function after the trial-for-ignition period. → Interrupted Ignition,
A pilot which is automatically lighted each time there is a call for heat and which is cut off automatically at the end of the trial-for-ignition of the main burner. → Interrupted Pilot,
A pilot that burns without turn down throughout the entire time the burner is in service, whether the main burner is firing or not. → Continuous Pilot,
A pilot which is automatically lighted each time there is a call for heat and burns during the entire period that the main burner is firing. → Intermittent Pilot, That portion of an appliance designed for the attachment of a draft hood, vent connector, or venting system → Flue Collar

Your answer is incorrect.

The correct answer is: That part of the venting system that conducts the flue gases from the flue collar of an appliance to a chimney or vent, and that may include a draft control device. → Vent Connector, An automatic valve that has a closing time of less than 5 seconds upon being de-energized. → Fast-Closing Valve, A pressure relief valve that is built into the body of the diaphragm assembly of a pressure regulator. → Internal Relief Valve, A valve that automatically shuts off the supply of gas when de-energized by a combustion safety control, safety limit control or loss of activating medium. → Safety Shut-off Valve, A system for the removal of flue gases to the outdoors by means of a chimney, vent connector, vent, or a natural or mechanical exhaust system. → Venting System, The combination of valves, controls, piping and tubing, of an appliance upstream from the manifold, through which gas is supplied to the appliance and by which gas is controlled. →

Valve Train,
A device, either adjustable or non-adjustable, for controlling and maintaining, within acceptable limits, a uniform outlet pressure. → Pressure Regulator, A pressure regulator installed on a service line to control the pressure of the gas delivered to the customer. → Service Regulator, A regulator that is capable of maintaining a reduced outlet pressure when the fuel flow condition is static → Lock-up (Positive Shut-off) Regulator

Which Code governs the assembly or construction of an appliance subject to the authority having jurisdiction?

Select one:

a.

CSA B 149.3

b.

CSA B 149.1

c.

CSA B 149.4

d.

CSA B 149.2

Feedback

Your answer is incorrect.

B149.1 (4.2.3)

The correct answer is: CSA B 149.3

Question text

An appliance, accessory, component, equipment or material used in an installation shall be of a type and rating _____for the specific purpose for which it is employed.

Select one:

a.

appropriate

b.

sized

c.

fit

d.

approved

Feedback

Your answer is incorrect.

B149.1 (4.2.1)

The correct answer is: approved

Question text

When a new appliance, certified for high altitude, is installed above 4,500 feet, what is the required input rating reduction?

Select one:

a.

8 % for each additional 1,000 ft. (300 m)

b.

4 % for each additional 1,000 ft. (300 m)

c.

5 % for each additional 1,000 ft. (300 m)

d.

2 % for each additional 1,000 ft. (300 m)

Feedback

Your answer is incorrect.

B149.1 (4.22.1)

The correct answer is: 4 % for each additional 1,000 ft. (300 m)

Question text

An appliance installed in a location where flammable vapor, combustible dust or fibers or an explosive mixture is present shall be:

Select one:

a.

Purged with nitrogen

b.

Sleeved

c.

Certified for installation in a hazardous location

d.

Wrapped in a fire proof coating

Feedback

Your answer is correct.

B.149.1 (4.9.2)

The correct answer is: Certified for installation in a hazardous location

Question text

In a storage garage, an appliance shall be installed so that a component capable of igniting a flammable vapor is located not less than _____ above the floor.

Select one:

a.

16 inches (400 mm)

b.

6 inches (150 mm)

c.

18 inches (450 mm)

d.

12 inches (300 mm)

Feedback

Your answer is correct.

B149.1 (4.16.2)

The correct answer is: 18 inches (450 mm)

Question text

When a conflict exists between the manufacturers' certified installation instructions and the B 149.1 gas code, which method shall be used?

Select one:

a.

home owner

b.

common sense

c.

code

d.

manufacturer

Feedback

Your answer is incorrect.

B149.1 (4.1.4)

The correct answer is: code

Question text

When an appliance is converted from the gas or fuel specified on the rating plate, the conversion shall be in accordance with:

Select one:

a.

The manufacturer’s certified instructions

b.

good engineering principles

c.

home owner's request

d.

gas fitter's experience

Feedback

Your answer is correct.

B149.1 (4.5.3)

The correct answer is: The manufacturer's certified instructions

Question text

Who determines if the installation of a used appliance is acceptable?

Select one:

a.

the gas inspector

b.

the certified installer

c.

the manufacturer

d.

the homeowner

Feedback

Your answer is incorrect.

B149.1 (4.5.6)

The correct answer is: the certified installer

Question text

In a repair garage, an appliance shall be installed so that a component capable of igniting a flammable vapor is located not less than _____ above the floor.

Select one:

a.

18 inches (450 mm)

b.

5 feet (1500 mm)

c.

4.5 ft. (1400 mm)

d.

36 inches (900 mm)

Feedback

Your answer is incorrect.

B149.1 (4.16.3)

The correct answer is: 4.5 ft. (1400 mm)

Question text

When an appliance is installed in an area where physical damage may be incurred, what is required?

Select one:

a.

it shall be protected from such damage

b.

it shall be labeled and identified "Danger, Gas Appliance"

c.

it shall not be installed in such a location

d.

it shall be in a framed mechanical room

Feedback

Your answer is incorrect.

B149.1 (4.23)

The correct answer is: it shall be protected from such damage

Question text

What shall be done to an appliance that has been converted from propane to natural gas?

a.

Purge the system with oxygen

b.

Adjust the input

c.

Mark the appliance rating plate with the change has been made

d.

Attach a tag on the gas meter

Feedback

Your answer is correct.

4.5

The correct answer is:

Mark the appliance rating plate with the change has been made

Question text

During the installation of a meter or a service regulator, the installer shall comply with which code?

a.

CSA Z.240

b.

CSA Z.7396

c.

CSA Z.662

d.

CSA Z.682

Feedback

Your answer is incorrect.

4.6

The correct answer is:

CSA Z.662

Question text

Which type of flashlight shall be used to check for gas leakage?

a.

Class 1 group B

b.

Class 1 group A

c.

Class 2 group A

d.

Class 2 group B

Feedback

Your answer is incorrect.

4.12

The correct answer is: Class 1 group A

Question text

Which type of protection is required to provide protection from a combustible material when the required clearance without protection is 34-inches, and the appliance is being installed in a location with only 21-inches on the side and back wall clearance from combustible material?

a.

28 Gauge Sheet Metal

b.

¼" Insulating Mill Board

c.

¼" Insulating Mill Board with Mineral Wool Batts

d.

22 Gauge Sheet Metal

Feedback

Your answer is incorrect.

Table 4.1

The correct answer is:

22 Gauge Sheet Metal

Question text

An access opening shall be provided to a space where an appliance is installed, and the opening shall be a minimum of:

a.

24" x 30"

b.

36" x 36"

c.

24" x 24"

d.

24" x 36"

Feedback

Your answer is incorrect.

4.14

The correct answer is:

24" x 30"

Question text

Where an appliance is installed on a roof, the clearance between the edge of the roof shall be:

a.

5'

b.

8'

c.

4'

d.

6'

Feedback

Your answer is incorrect.

4.14

The correct answer is:

6'

Question text

An appliance with an FVIR system installed in a storage garage shall have a minimum clearance above the floor of:

a.

4.5'

b.

No Clearance Required

c.

3'

d.

1.5'

Feedback

Your answer is incorrect.

4.16

The correct answer is:

No Clearance Required

Question text

What input shall an appliance certified for high-altitude installation be adjusted to, if the sea level rating is 120,000 BTUH and a high-altitude rating of 98,000 BTUH when installed at an elevation of 8,200 feet above sea level?

a.

72,675 BTUH

b.

79,398 BTUH

c.

86,204 BTUH

d.

82,320 BTUH

Feedback

Your answer is incorrect.

4.22

The correct answer is:

82,320 BTUH

Question text

What is the maximum vapor pressure supplied into the piping or tubing system serving an appliance in a mobile home?

a.

10” w.c.

b.

11” w.c.

c.

7” w.c.

d.

13” w.c.

Feedback

Your answer is incorrect.

4.25

The correct answer is:

13” w.c.

Question text

A defective heat exchanger in a furnace installed in a dwelling unit shall be:

a.

Temporarily repaired

b.

Replaced

c.

Repaired

d.

Re-Calibrated

Feedback

Your answer is incorrect.

4.21

The correct answer is:

Replaced

Question text

Who shall ensure that the gas piping or tubing system is gas-tight at the completion of the test?

a.

Safety Officer

b.

Gas Contactor

c.

Installer

d.

Field Safety Representative

Feedback

Your answer is incorrect.

4.3

The correct answer is:

Installer

Question text

For the purpose of the B.149.1 which of the following gases does the code book not apply to?

a.

C4H10

b.

C2H2

c.

CH4

d.

C3H8

Feedback

Your answer is incorrect.

4.1

The correct answer is:

C2H2

Question text

Unless a greater distance is indicated on the appliance rating plate, what is the minimum service clearance to any side, top, or bottom where service could be necessary?

a.

30"

b.

24"

c.

36"

d.

48"

Feedback

Your answer is incorrect.

4.14

The correct answer is:

24"

Question text

What type of gas valve shall be used for an automatic fire-extinguishing system protecting an exhaust system to ensure the gas supply to the appliance and the pilot is automatically shut off?

a.

Automatic Electrically Operated Fast-Closing

b.

Automatic Seismic Valve

c.

Redundant Gas Valve

d.

Mechanical Electrical Fast-Closing Valve

Feedback

Your answer is incorrect.

4.19

The correct answer is:

Automatic Electrically Operated Fast-Closing

Which of the following piping materials may not be used to run gas above ground.

Select one:

a.

Steel

b.

Plastic

c.

Copper

d.

CSST

Feedback

Your answer is incorrect.

B149.1 (6.2.17)

The correct answer is: Plastic

Question **2**
Not answered

Marked out of 1.00

Flag question

Question text
The maximum gas (natural and propane) pressure allowance for threaded schedule 40 steel pipe is _____(_____).

Select one:

a.

Less than 250 (1725 kPa)

b.

125 (860 kPa)

c.

no limit on steel pipe

d.

350 (2400 Kpa)

Feedback
Your answer is incorrect.

B149.1 (6.2.3)

The correct answer is: 125 (860 kPa)

Question **3**

Not answered

Marked out of 1.00

Flag question

Question text

The maximum allowable pressure drop on a low pressure system shall not exceed:

Select one:

a.

.5 inch w.c. (125 Pa)

b.

1.5 inch w.c. (375 Pa)

c.

1 inch w.c. (250 Pa)

d.

2 inch w.c. (500Pa)

Feedback

Your answer is incorrect.

B149.1 Table 6.1

The correct answer is: 1 inch w.c. (250 Pa)

Question **4**

Not answered

Marked out of 1.00

Flag question

Question text

Which of the following fittings are not included on tables A.16 and B.11 ?

Select one:

a.

tees

b.

couplings

c.

90's

d.

45's

Feedback

Your answer is incorrect.

B149.1 Tables A.16 and B.11

The correct answer is: couplings

Question **5**

Not answered

Marked out of 1.00

Flag question

Question text

What is the minimum size piping allowed to be installed in a concealed location?

Select one:

a.

0.5 inch NPS

b.

1.0 inch (NPS)

c.

0.75 inch (NPS)

d.

0.25 inch NPS

Feedback

Your answer is incorrect.

B149.1 (6.3.9)

The correct answer is: 0.5 inch NPS

Question **6**

Not answered

Marked out of 1.00

Flag question

Question text

What is the maximum spacing between supports for a horizontal 1 inch steel gas line?

Select one:

a.

6 feet (2m)

b.

10 feet (3m)

c.

15 feet (5m)

d.

8 feet (2.5m)

Feedback

Your answer is incorrect.

B149.1 (Table 6.2)

The correct answer is: 8 feet (2.5m)

Question **7**

Not answered

Marked out of 1.00

Flag question

Question text

What type of joints are ***not*** permitted in steel piping?

Select one:

a.

threaded

b.

press-connected

c.

brazed

d.

flanged

Feedback

Your answer is incorrect.

B149.1 (6.9.1)

The correct answer is: brazed

Question **8**

Not answered

Marked out of 1.00

Flag question

Question text

What is the maximum size gas piping that may be threaded?

Select one:

a.

2.5 inches

b.

1.5 inches

c.

2.0 inches

d.

1.25 inches

Feedback

Your answer is incorrect.

B149.1 (6.9.2)

The correct answer is: 2.0 inches

Question **9**

Not answered

Marked out of 1.00

Flag question

Question text

Which of the following statements is ***not*** true with regards to jointing sealant?

Select one:

a.

applied to male threads only

b.

tape must be pink

c.

first two starter threads must be left bare

d.

certified

Feedback

Your answer is incorrect.

B149.1 (6.9.6)

The correct answer is: tape must be pink

Question **10**

Not answered

Marked out of 1.00

Flag question

Question text

Which of the following is ***not*** an approved joint for copper gas piping?

Select one:

a.

press-connect

b.

flared

c.

brazed

d.

soldered

Feedback

Your answer is incorrect.

B149.1 (6.9.9)

The correct answer is: soldered

Question **11**

Not answered

Marked out of 1.00

Flag question

Question text

What is the minimum diameter of an underground gas line?

Select one:

a.

1/2 inch

b.

3/4 inch

c.

1 inch

d.

1 1/4 inches

Feedback

Your answer is incorrect.

B149.1 (6.15.1)

The correct answer is: 1/2 inch

Question **12**

Not answered

Marked out of 1.00

Flag question

Question text

What is the maximum length for a hose connection in a permanent installation?

Select one:

a.

10 feet (3 m)

b.

15 feet (4.6 m)

c.

no maximum

d.

30 feet (9.5 m)

Feedback

Your answer is incorrect.

B149.1 [6.20.3(a)]

The correct answer is: 10 feet (3 m)

Question **13**

Not answered

Marked out of 1.00

Flag question

Question text

What is the minimum diameter of test gauge that may be used in a pressure test on gas piping?

Select one:

a.

2 inches (50 mm)

b.

1.5 inches (38 mm)

c.

3 inches (75 mm)

d.

2.5 inches (63 mm)

Feedback

Your answer is incorrect.

B149.1 [6.22.2(b)]

The correct answer is: 3 inches (75 mm)

Question **14**

Not answered

Marked out of 1.00

Flag question

Question text

What is the required test pressure and duration for a 250 foot / 2 psi gas system?

Select one:

a.

50 psi / 60 min

b.

15 psi / 15 min

c.

50 psi / 180 min

d.

15 psi / 60 min

Feedback

Your answer is incorrect.

B149.1 (Table 6.3)

The correct answer is: 15 psi / 60 min

Question **15**

Not answered

Marked out of 1.00

Flag question

Question text

What is the maximum operating pressure for a "container supplied" propane system?

Select one:

a.

375 psi

b.

250 psi

c.

test on propane "container supplied" systems not required

d.

350 psi

Feedback

Your answer is incorrect.

B149.1 [Table 6.3 (footnote a)]

The correct answer is: 250 psi

Question **16**

Not answered

Marked out of 1.00

Flag question

Question text

Which of the following must accompany an underground plastic gas piping installation?

Select one:

a.

below ground tracing wire

b.

below ground shut-off valve / above ground tracing wire

c.

above ground shut-off valve / below ground tracing wire

d.

above ground shut-off valve

Feedback

Your answer is incorrect.

B149.1 (6.15.13 /14)

The correct answer is: above ground shut-off valve / below ground tracing wire

Question **17**

Not answered

Marked out of 1.00

Flag question

Question text

How should piping/tubing laid underground be protected against corrosion?

Select one:

a.

waterproof paint

b.

good engineering practice or manufacturer's instructions

c.

teflon coating

d.

electrical tape

Feedback

Your answer is incorrect.

B149.1 (6.16.2)

The correct answer is: good engineering practice or manufacturer's instructions

Question **18**

Not answered

Marked out of 1.00

Flag question

Question text

Which of the following is ***not*** an acceptable shut-off for a high pressure gas system?

Select one:

a.

gate valve

b.

ball valve

c.

lubricated plug valve

d.

eccentric valve

Feedback

Your answer is incorrect.

B149.1 (6.18.4)

The correct answer is: gate valve

Question **19**

Not answered

Marked out of 1.00

Flag question

Question text

Which of the following is not a requirement for plastic tubing terminating above ground ?

Select one:

a.

Plastic piping not subject to external stress

b.

Casing extends at least 6 inches below grade

c.

Above ground portion is completely encased

d.

Exposed piping painted yellow to a height of 18 inches

Feedback

Your answer is incorrect.

B149.1 (6.2.19)

The correct answer is: Exposed piping painted yellow to a height of 18 inches

Question **20**

Not answered

Marked out of 1.00

Flag question

Question text

What is the maximum distance from the gas meter or line pressure regulator extension to existing system may be added without changing existing sizing ?

Select one:

a.

36 inches

b.

12 inches

c.

48 inches

d.

24 inches

Feedback

Your answer is incorrect.

B149.9 (6.6.2)

The correct answer is: 24 inches

Question **21**

Not answered

Marked out of 1.00

Flag question

Question text

Which of the following is a permissible location for gas piping ?

Select one:

a.

Heating duct

b.

Elevator shaft

c.

False ceiling space (T.bar ceiling)

d.

Chimney

Feedback

Your answer is incorrect.

B149.1 6.7.2 , 6.7.6

The correct answer is: False ceiling space (T.bar ceiling)

Question **22**

Not answered

Marked out of 1.00

Flag question

Question text

Which of the following is a permitted practice ?

Select one:

a.

1/2 inch welded joint

b.

Using gas piping as an electrical ground

c.

Repairing a defective section of piping / tubing

d.

Use of a close nipple

Feedback

Your answer is incorrect.

B149.1 (6.14 , 6.9.2)

The correct answer is: 1/2 inch welded joint

Question **23**

Not answered

Marked out of 1.00

Flag question

Question text

How far must the unthreaded portion of a pipe nipple extend through a finished floor ?

Select one:

a.

2 inches

b.

1/2 inch

c.

1 1/2 inch

d.

1 inch

Feedback

Your answer is incorrect.

B149.1 (6.12.2)

The correct answer is: 2 inches

Question **24**

Not answered

Marked out of 1.00

Flag question

Question text

Which of the following appliances does not require a dirt pocket ?

Select one:

a.

Furnace

b.

water heater

c.

Clothes dryer

d.

Boiler

Feedback

Your answer is incorrect.

B149.1 (6.13.1)

The correct answer is: Clothes dryer

Question **25**

Not answered

Marked out of 1.00

Flag question

Question text

What is the minimum length of a drip / dirt pocket ?

Select one:

a.

Equal to diameter of pipe it serves

b.

6 inches

c.

Equal to its length

d.

3 inches or diameter of pipe it serves , whichever is greater

Feedback

Your answer is incorrect.

B149.1 (6.13.2)

The correct answer is: 3 inches or diameter of pipe it serves , whichever is greater

Question **26**

Not answered

Marked out of 1.00

Flag question

Question text

What is the minimum depth of underground gas piping below a commercial drive way / parking lot ?

Select one:

a.

24 inch

b.

15 inch

c.

36 inch

d.

30 inch

Feedback

Your answer is incorrect.

B149.1 (6.15.4)

The correct answer is: 24 inch

Question **27**

Not answered

Marked out of 1.00

Flag question

Question text

For identification of a gas *piping system* in a residential application. The maximum spacing of intervals along the entire length of the gas pipe shall not exceed:

Select one:

a.

Must be completely yellow in a residential building

b.

Identification not required

c.

20 feet

d.

6 Feet

Feedback

Your answer is incorrect.

B149.1 (6.17.3)

The correct answer is: Identification not required

Question **28**

Not answered

Marked out of 1.00

Flag question

Question text

Where is / are the shut off valves located when a gas line is connected between two buildings ?

Select one:

a.

At point of exit / entry of either building

b.

At point of exit / entry of building with largest gas input

c.

At the point of exit of the first building and point of entry of the second

d.

At the point of exit / entry of the system with largest diameter piping

Feedback

Your answer is incorrect.

B149.1 (6.18.8)

The correct answer is: At the point of exit of the first building and point of entry of the second

Question **29**

Not answered

Marked out of 1.00

Flag question

Question text

How long must a test be maintained once the appliance is installed ?

Select one:

a.

10 minutes

b.

1 hour

c.

30 minutes

d.

45 minutes

Feedback

Your answer is incorrect.

B149.1 (6.22.3 (d)

The correct answer is: 10 minutes

Question **30**

Not answered

Marked out of 1.00

Flag question

Question text

Which of the following is acceptable support for horizontal rooftop gas piping / tubing ?

Select one:

a.

Unpainted steel riser champs

b.

Support not required on rooftops

c.

Treated wooden blocks

d.

Untreated wooden blocks

Feedback

Your answer is incorrect.

B149.1 (6.25.1)

The correct answer is: Treated wooden blocks

Question **31**

Not answered

Marked out of 1.00

Flag question

Question text

What types of fittings are required with steel pipe?

Select one:

a.

Malleable iron or stainless steel and shall comply with ANSI/ASME B16.3

b.

Ductile iron complying with CSA B64.10

c.

Malleable iron or steel and shall comply with ANSI/ASME B16.3

d.

Duriron and complying with AWWA B.149.5

Feedback

Your answer is incorrect.

6.2.2

The correct answer is: Malleable iron or steel and shall comply with ANSI/ASME B16.3

Question **32**

Not answered

Marked out of 1.00

Flag question

Question text

What is acceptable termination to a gas line outlet not yet connected to an appliance ?

Select one:

a.

Ball valve

b.

Plug valve

c.

Cap, plug or plugged valve

d.

Nothing as long as gas is off

Feedback

Your answer is incorrect.

B149.1 (6.12.1)

The correct answer is: Cap, plug or plugged valve

Question **33**

Not answered

Marked out of 1.00

Flag question

Question text

What is the minimum distance from the surface of a wall that contains a gas line before protection is not required ?

Select one:

a.

1.25 inches

b.

1.5 inches

c.

1.75 inches

d.

2 inches

Feedback

Your answer is incorrect.

B149.1 (6.16.4)

The correct answer is: 1.75 inches

Question **34**

Not answered

Marked out of 1.00

Flag question

Question text

What does CSST stand for ?

Select one:

a.

Computerized Structural Steel Tupperware

b.

Bradbury Steel Tubing

c.

Corrugated Stainless Steel Tubing

d.

Coated Stainless steel tubing

e.

Certified standard stainless tubing

Feedback

Your answer is incorrect.

B149.1 (6.2.8)

The correct answer is: Corrugated Stainless Steel Tubing

Question **35**

Not answered

Marked out of 1.00

Flag question

Question text

What type of copper is approved for gas ?

Select one:

a.

Type G , L or K

b.

Type K

c.

Type L or K

d.

Type G

Feedback

Your answer is incorrect.

B149.1 (6.2.4)

The correct answer is: Type G , L or K

Question **36**

Not answered

Marked out of 1.00

Flag question

Question text

What type of copper pipe is approved for underground gas installation ?

Select one:

a.

Any type as long as it's painted

b.

Type K

c.

Type K and externally coated L or G

d.

Externally coated Type G

Feedback

Your answer is incorrect.

B149.1 (6.2.8.)

The correct answer is: Type K and externally coated L or G

Question **37**

Not answered

Marked out of 1.00

Flag question

Question text

What is the minimum size piping that may be concealed ?

Select one:

a.

NPS 1/2 inch

b.

NPS 3/4 inch

c.

NPS 3/8 inch

d.

NPS 1/4 inch

Feedback

Your answer is incorrect.

B149.1 (6.3.9)

The correct answer is: NPS 1/2 inch

Question text

Which of the following is an acceptable fitting for a gas system ?

Select one:

a.

1 inch x 3/4 inch steel bushing

b.

1 inch street 90

c.

1 inch x 3/4 inch malleable bushing

d.

3/4 inch close nipple

Feedback

Your answer is incorrect.

B149.1

The correct answer is: 1 inch x 3/4 inch steel bushing